

EXHIBIT A

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF PENNSYLVANIA**

JOHN UTESCH, Individually and on Behalf
of All Others Similarly Situated,

Civil Action No. 2:16-cv-05932-WB

Plaintiff(s),

v.

LANNETT COMPANY, INC., ARTHUR P.
BEDROSIAN, and MARTIN P. GALVAN,

Defendants.

EXPERT REPORT OF CHAD COFFMAN, CFA

October 1, 2020

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I. INTRODUCTION

1. I, Chad Coffman, am the President of Global Economics Group, a Chicago-based firm that specializes in the application of economics, finance, statistics, and valuation principles to questions that arise in a variety of contexts, including, as here, in the context of securities litigation. I have been asked by Lead Counsel for the Lead Plaintiff University of Puerto Rico Retirement System and Plaintiff Ironworkers Locals 40, 361 & 417 Union Security Funds (“Plaintiffs”) in this matter to examine and opine on whether the market for Lannett Company, Inc. (“Lannett” or the “Company”) common stock (“Lannett Common Stock”) was efficient during the period from July 15, 2014 through October 31, 2017, inclusive (the “Class Period”).^{1,2} In addition, I have been asked to opine on whether calculating damages in this action is subject to a common methodology under Section 10(b) of the Securities Exchange Act of 1934 (the “Exchange Act”) and SEC Rule 10b-5 adopted thereunder (collectively “Section 10(b)").

2. The materials I have considered in forming my opinions are summarized in **Appendix A**. Global Economics Group is being compensated at an hourly rate of \$850 per hour for my work on this matter, and at rates between \$200 and \$425 for members of my staff who performed work in connection with this report under my direction and supervision. My compensation is in no way contingent on the outcome of this case. My qualifications are described below.

¹ Third Amended Consolidated Securities Class Action Complaint filed September 21, 2018, in John Utesch, Individually and on Behalf of All Others Similarly Situated, Plaintiff(s), v. Lannett Company, Inc., Arthur P. Bedrosian, and Martin P. Galvan, Defendants., Civil Action No. 2:16-cv-05932-WB, (“Complaint”) ¶2.

² While the final alleged Corrective Disclosure occurred during market hours on October 31, 2017, Lead Counsel has asked that I include this whole day as part of the Class Period analyses.

II. QUALIFICATIONS

3. I hold a Bachelor's Degree in Economics with Honors from Knox College and a Master's of Public Policy from the University of Chicago. I am also a CFA charter-holder. The CFA, or Chartered Financial Analyst, designation is awarded to those who have sufficient practical experience and complete a rigorous series of three examinations over three years that cover a wide variety of financial topics including financial statement analysis and valuation.

4. I, along with several others, founded Global Economics Group on March 25, 2008.³ Prior to starting Global Economics Group, I was employed by Chicago Partners LLC for over twelve years where I was responsible for conducting and managing analysis in a wide variety of areas including securities valuation and damages, labor discrimination, and antitrust. I have been engaged numerous times as a valuation expert both within and outside the litigation context. My experience in class action securities cases includes work for plaintiffs, defendants, D&O insurers, and a prominent mediator (Retired Judge Daniel Weinstein) to provide economic analysis and opinions in dozens of securities class actions as well as other matters. As a result of my involvement in these cases, much of my career has been spent analyzing and making inferences about how quickly and reliably, and to what degree, new information impacts securities prices.

5. My qualifications are further detailed in my curriculum vitae, which is attached as **Appendix B**.

III. SUMMARY OF OPINIONS

6. After analyzing Lannett's Common Stock during the Class Period and giving careful consideration to the efficiency factors described in detail throughout this report, I have

³ Prior to March 16, 2011, Global Economics Group was known as Winnemac Consulting, LLC.

formed the opinion that the market for Lannett's Common Stock was efficient during the Class Period.

7. I have also formed the opinion that damages in this action can be calculated on a class-wide basis using a common methodology. These opinions are based upon my analysis described below.

8. The remainder of this report is organized as follows: **Section IV** of this report provides an overview of Lannett's business operations and the allegations in this case. **Section V** discusses the reliance requirement for the claims under Section 10(b) of the Exchange Act and the "fraud on the market" theory. **Section VI** introduces the *Cammer* factors and other factors that financial economists and courts apply when evaluating market efficiency under the "fraud on the market" theory. **Section VII** provides the results of my empirical evaluation of each *Cammer* factor and other factors for Lannett's Common Stock during the Class Period. **Section VIII** addresses how damages in this matter are subject to a common approach and methodology that can be applied class-wide. Finally, **Section IX** offers my conclusions.

9. I reserve the right to amend this report, including to reflect new information that becomes available to me in light of the discovery process and/or future rulings from the Court.

IV. OVERVIEW OF THE COMPANY AND ALLEGATIONS

10. Lannett Company is a firm that develops, manufactures, markets, and distributes generic versions of brand pharmaceutical products.⁴ Lannett described its business during the Class Period as follows:

Lannett Company, Inc. and subsidiaries (the "Company," "Lannett," "we," or "us") was incorporated in 1942 under the laws of the Commonwealth of Pennsylvania and reincorporated in 1991 as a Delaware corporation. We develop, manufacture, market and distribute generic versions of brand

⁴ Lannett SEC Form 10-K for the fiscal year ended June 30, 2017, p. 4.

pharmaceutical products.... The Company has experienced total net sales growth at a compounded annual growth rate in excess of 28% over the past sixteen years. In that time period, total net sales increased from \$12.1 million in fiscal year 2001 to \$633.3 million in fiscal year 2017. This growth has been achieved through filing and receiving approvals for abbreviated new drug applications (“ANDAs”), strategic partnerships and launches of additional manufactured drugs, opportunities resulting from our strong historical record of regulatory compliance, as well as the acquisitions of Silarx Pharmaceuticals, Inc. (“Silarx”) and Kremers Urban Pharmaceuticals Inc. (“KUPI”).⁵

11. For the fiscal year ended June 30, 2017, Lannett reported revenue of \$637.3 million, operating income of \$86.4 million, and listed total assets of \$1.6 billion.⁶ As of June 30, 2017, Lannett employed approximately 1,126 employees,⁷ and its Common Stock traded on the New York Stock Exchange (“NYSE”) under the ticker “LCI.”⁸

12. Plaintiffs’ Complaint alleges that Lannett and the Individual Defendants^{9,10} issued false and misleading statements and omitted material information regarding their knowledge of anticompetitive industry practices responsible for the price increases of key Lannett generic pharmaceuticals during the Class Period.¹¹ This ultimately caused damages to purchasers of Lannett Common Stock who unknowingly bought Lannett Common Stock at artificially inflated prices and were damaged when the stock price ultimately reflected the concealed information.¹²

13. With regard to the claims at issue in this case, Plaintiffs contend that Defendants repeatedly issued materially false or misleading statements and financial results throughout the

⁵ Lannett SEC Form 10-K for the fiscal year ended June 30, 2017, p. 4.

⁶ Lannett SEC Form 10-K for the fiscal year ended June 30, 2017, p. 40.

⁷ Lannett SEC Form 10-K for the fiscal year ended June 30, 2017, p. 21.

⁸ Lannett SEC Form 10-K for the fiscal year ended June 30, 2017, p. 38.

⁹ Complaint ¶¶20-22.

¹⁰ The Individual Defendants are Lannett’s former President and CEO Arthur P. Bedrosian and current Lannett CFO and Vice President of Finance and Treasurer Martin P. Galvan. *See* Complaint ¶¶21-22.

¹¹ Complaint ¶157.

¹² Complaint ¶189.

Class Period, even as the details of the price-fixing scheme under investigation came to light and as the investigation widened to include Lannett itself.¹³ The Complaint alleges that through a series of corrective disclosures, the market finally learned the truth about Lannett's fraudulent scheme, and once revealed, the price of Lannett Common Stock fell, harming investors who bought at inflated prices.¹⁴

V. DISCUSSION OF RELIANCE ELEMENT

14. Class members' reliance on the alleged misstatements and material omissions is a required element for Plaintiffs' Section 10(b) claims. Plaintiffs assert the fraud on the market theory of reliance in this matter.¹⁵ The "fraud on the market" theory is based on the fact that in an efficient market (one in which widely-available public information is quickly incorporated into the market price of a security), all purchasers implicitly rely on any material misrepresentations or omissions since the value of those misrepresentations or omissions is incorporated into each class member's purchase price. The "fraud on the market" theory was first addressed by the U.S. Supreme Court in *Basic Inc. v. Levinson*:

... [I]n an open and developed securities market, the price of a company's stock is determined by the available material information regarding the company and its business... Misleading statements will therefore defraud purchasers of stock even if the purchasers do not directly rely on the misstatements... The causal connection between the defendants' fraud and the plaintiffs' purchase of stock in such a case is no less significant than in a case of direct reliance on misrepresentations.¹⁶

15. The Supreme Court recently reaffirmed this theory in *Halliburton II*:

More than 25 years ago, we held that plaintiffs could satisfy the reliance element of the Rule 10b-5 cause of action by invoking a presumption that a

¹³ Complaint ¶¶82-156.

¹⁴ Complaint ¶¶8, 11-13, 99-105, 134-138, 156, 180-188.

¹⁵ Complaint ¶¶189-193.

¹⁶ *Basic Inc. v. Levinson*, 485 U.S. 224, 241-42 (1988) ("Basic").

public, material misrepresentation will distort the price of stock traded in an efficient market, and that anyone who purchases the stock at the market price may be considered to have done so in reliance on the misrepresentation. We adhere to that decision and decline to modify the prerequisites for invoking the presumption of reliance.¹⁷

16. As indicated in *Basic* and reaffirmed in *Halliburton II*, in an open, developed and efficient market, market prices reflect what is publicly known about a company. If a company provides the market with misleading information regarding its financial strength or business practices, the market price will be inflated (or deflated) compared to what the price would have been if the truth were known (but-for misleading information). Thus, in an efficient market, where the plaintiffs assert there were material misrepresentations or omissions, all purchasers implicitly relied on those misrepresentations and/or lack of disclosure by paying the inflated (or deflated) price.

17. Determining whether the market for a security was “open and developed” or “efficient” to the degree required for a presumption of reliance under the “fraud on the market” theory is an empirical exercise.¹⁸ The esteemed economist Dr. Eugene Fama, in his seminal research, first outlined definitions of an “efficient market.”¹⁹ He described different levels of efficiency which he called “weak-form,” “semi-strong-form,” and “strong-form” efficiency.²⁰

¹⁷ *Halliburton Co. v. Erica P. John Fund, Inc.*, 134 S. Ct. 2398, 2418 (2014) (“*Halliburton II*”).

¹⁸ To recognize the presumption of reliance, the *Basic* Court explained, was not “conclusively to adopt any particular theory of how quickly and completely publicly available information is reflected in market price.” *Basic*, 485 U.S. at 248 n.28. The *Basic* Court instead based the presumption on the fairly modest premise that “market professionals generally consider most publicly announced material statements about companies, thereby affecting stock market prices.” *Basic*, 485 U.S. at 246 n.24. *Basic*’s presumption of reliance thus does not rest on a “binary” view of market efficiency, but rather, market efficiency is a matter of degree.

¹⁹ Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970).

²⁰ “Weak-form” efficiency requires that historical prices are not predictive of future prices. Under this form of efficiency, excess returns cannot be earned using strategies based on historical prices. Therefore, technical analysis will not produce consistent excess returns over time. “Semi-strong form” efficiency implies that all public information is reflected in a stock’s current market price. Security prices adjust to new publicly available information rapidly and in an unbiased fashion so that it is impossible to earn excess returns by trading on that information. Under this form of efficiency, neither fundamental nor technical analysis can produce consistent excess returns. “Strong-form” efficiency implies all information in the market, whether public or private, is accounted for in

18. The market efficiency standard adopted by *Basic* and reaffirmed by *Halliburton II* as necessary for the presumption of reliance conforms most closely with Dr. Fama's "semi-strong form" efficiency. "Semi-strong form" efficiency implies that all publicly available information is reflected in a security's current market price. This implies that security prices adjust to new publicly available information rapidly and in an unbiased fashion so that it is impossible to earn excess returns by trading on that information. *Basic* stated: "In an open and developed securities market, the price of a company's stock is determined by the available material information regarding the company and its business."²¹ The Supreme Court's effective adoption of the "semi-strong form" efficiency standard is economically sensible because it recognizes that insiders often possess non-public information and that securities prices do not necessarily reflect this non-public information, but that to presume reliance, the market price must reflect publicly available information.

19. In the next section, I explain the factors that are regularly considered by financial economists and courts in determining whether the market for a particular security is efficient.

VI. CAMMER FACTORS

20. In *Cammer v. Bloom*, the Court identified the following factors as relevant to the determination of whether an efficient market exists for a given security: 1) average weekly trading volume, 2) analyst coverage, 3) market makers, 4) SEC Form S-3 eligibility, and 5) price reaction to unexpected information.²²

the market price. In this market, investors cannot consistently earn excess returns over a long period of time even if they have inside information.

²¹ *Basic*, 485 U.S. at 241.

²² *Cammer, v. Bloom*, 711 F. Supp. 1264 (D.N.J. 1989) ("*Cammer*").

21. The *Cammer* decision relied on Bromberg & Lowenfels’ definition of efficiency. As articulated below, the adopted definition of efficiency is consistent with Fama’s definition of “semi-strong” efficiency. For the purposes of this exercise, I adopt Bromberg & Lowenfels’ definitions for the terms “open,” “developed,” and “efficient” as described below:

An *open market* is one in which anyone, or at least a large number of persons, can buy or sell.

A *developed market* is one which has a relatively high level of activity and frequency, and for which trading information (e.g., price and volume) is widely available. It is principally a secondary market in outstanding securities. It usually, but not necessarily, has continuity and liquidity (the ability to absorb a reasonable amount of trading with relatively small price changes).

An *efficient market* is one which rapidly reflects new information in price.

These terms are cumulative in the sense that a developed market will almost always be an open one. And an efficient market will almost invariably be a developed one.²³

22. While there is a well-accepted economic theory of market efficiency, there are no broadly accepted bright-line empirical tests that allow one to classify a particular market as “efficient” or “inefficient.” In my view, the *Cammer* decision identified important metrics to consider when evaluating efficiency for purposes of the “fraud on the market” theory. I also consider a number of other factors that courts have utilized beyond the *Cammer* factors. However, since there are no bright-line tests for efficiency, it is important to consider the identified efficiency factors as a whole because none of the individual tests or metrics is determinative as to whether a particular market is efficient.

23. In addition to the five *Cammer* factors, I also evaluate, in subsequent sections, the three widely-recognized *Krogerman* factors to examine further the efficiency of the market for

²³ *Cammer*, 711 F. Supp. at 1276 n.17 (citing Bromberg & Lowenfels, 4 *Securities Fraud and Commodities Fraud*, § 8.6 (Aug. 1988)) (“Bromberg & Lowenfels”)) (emphasis added).

Lannett Common Stock during the Class Period.²⁴ These factors are the: 1) company's market capitalization, 2) stock's bid-ask spread, and 3) percentage of stock not held by insiders (the float). Finally, in subsequent sections, I also consider three additional factors to assess market efficiency during the Class Period: 1) the amount of institutional ownership of Lannett Common Stock, 2) autocorrelation (meaning whether there is a pattern in a security's returns so that future returns can be predicted based upon past returns), and 3) options trading. Consideration of these three factors can provide additional evidence of market efficiency (or inefficiency), alongside the *Cammer* and *Krogman* factors.

VII. APPLICATION OF EFFICIENCY FACTORS TO LANNETT COMMON STOCK

A. OVERVIEW

24. After giving careful consideration to each of the efficiency factors described in detail below, I find that each factor supports the conclusion that the market for Lannett Common Stock was efficient throughout the Class Period. In addition to the discussion below, **Exhibit 1** summarizes how, for each of the factors examined, the empirical evidence supports a finding that Lannett Common Stock traded in an efficient market. As further background to my analyses, **Exhibit 2** displays Lannett Common Stock closing price and trading volume for each day throughout the Class Period.

25. In summary, and as discussed more fully below, Lannett Common Stock traded in an efficient market during the Class Period. First, the average weekly trading volume of Lannett Common Stock during the Class Period far exceeded benchmarks that courts have established. During the Class Period, the average weekly trading volume for Lannett Common Stock was 4.56 million shares, which represents 12.47% of shares outstanding, higher than the average

²⁴ *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001).

security traded on the New York Stock Exchange (“NYSE”) and/or NASDAQ. Second, numerous securities analysts followed and reported on Lannett during the Class Period. Third, Lannett Common Stock was actively traded on the NYSE, fulfilling the *Cammer* factor regarding market makers. Fourth, Lannett filed a Form S-3ASR during the Class Period and met the important eligibility criteria for filing a Form S-3 throughout the Class Period. Fifth, there was a strong cause-and-effect relationship between new Company-specific information and the market price of Lannett Common Stock during the Class Period. Sixth, Lannett Common Stock had a large market capitalization. Seventh, Lannett Common Stock had a low bid-ask spread relative to other exchange-traded common stocks. Eighth, insider holdings were low while institutional ownership was high during the Class Period. Ninth, the autocorrelation coefficient was not statistically significant at the 95% confidence level for the Class Period. Finally, there was active trading in Lannett options throughout the Class Period. My analyses of all of these factors support the conclusion that Lannett Common Stock traded in an open, developed, and efficient market at all relevant times.

B. CAMMER FACTOR 1: AVERAGE WEEKLY TRADING VOLUME

26. The first *Cammer* factor is the average weekly trading volume of a security.

According to one authority cited by the *Cammer* court,

Turnover measured by average weekly trading of 2% or more of the outstanding shares would justify a strong presumption that the market for the security is an efficient one; 1% would justify a substantial presumption.²⁵

27. Volume as a fraction of shares outstanding is an important indicator of market efficiency. First, volume is objectively quantifiable and comparable across securities. Second, high volume is generally indicative of continuity, liquidity, and market depth – which are highly

²⁵ *Cammer*, 711 F. Supp. at 1293 (citing Bromberg & Lowenfels).

indicative of market efficiency.²⁶ Third, substantial volume would indicate there is likely a market for the collection and distribution of information about the security. As Thomas and Cotter explain, “[t]rading volume was also considered as an eligibility standard because it affects information dissemination to the market, and was an important criterion for investment analysts in deciding which stocks to follow.”²⁷

28. Lannett Common Stock easily surpasses the threshold level of average weekly trading volume necessary for an efficient market. The average weekly trading volume for Lannett Common Stock during the Class Period was 12.47% of shares outstanding, compared to 2.07% for the NYSE and NASDAQ. Based on this figure, the weekly trading volume for Lannett Common Stock far exceeds the 1% or 2% threshold cited by *Cammer*.²⁸ **Exhibit 3** plots Lannett Common Stock’s trading volume as a fraction of shares outstanding for each week during the Class Period.²⁹ Indeed, the average weekly trading volume for Lannett Common Stock during the Class Period was 4.56 million shares. This volume of trading supports the conclusion that the market for this security was efficient throughout the Class Period.

²⁶ Continuity means that trades may occur at any time. Liquidity in this context means that investors can convert cash into shares or shares into cash at a price similar to that of the prior trade (assuming no new information). William Sharpe, Gordon J. Alexander & Jeffrey W. Bailey, *Investments*, Prentice Hall, 44-45 (5th ed. 1995).

Bromberg and Lowenfels define a market that has continuity and liquidity as “the ability to absorb a reasonable amount of trading with relatively small price changes.” *Cammer*, 711 F. Supp. at 1276 n.17 (citing Bromberg & Lowenfels).

Market depth refers to “the number of shares that [can] be traded at the quoted bid and ask prices.” A deep market will have significant orders on the buy and sell side so that the market can experience a relatively large market order without greatly altering the market price. See Amihud, Y., et al., *Liquidity and Asset Prices*, 1 FOUND. & TRENDS FIN. 269 (2005), 317.

²⁷ Randall S. Thomas & James F. Cotter, *Measuring Securities Market Efficiency in the Regulatory Setting*, 63 LAW & CONTEMP. PROBS. 105, 108 (2000).

²⁸ *Cammer* 711 F. Supp. at 1293-94 (D.N.J. 1989).

²⁹ For the purposes of this analysis, a “trading week” consists of 5 consecutive trading days, which may not follow the calendar week.

29. Another way to measure trading volume is annualized turnover velocity, which is essentially the first *Cammer* factor expressed in dollar terms.³⁰ To be more specific, instead of looking at shares traded divided by shares outstanding, turnover velocity is the dollar value of shares traded (i.e., shares traded multiplied by price per share) divided by the dollar value of all shares outstanding (i.e., shares outstanding multiplied by price per share). This is the same ratio because the numerator and denominator are multiplied by price per share. The advantage of this measure is that once quoted in annualized terms, Lannett's Common Stock's turnover velocity can be compared directly with other publicly traded stocks based on exchange-reported statistics.

30. For example, over the Class Period, the annualized turnover velocity ratio for Lannett's Common Stock was 623.48% compared with the NYSE and NASDAQ average of 107.89% for the Class Period.³¹ Thus, Lannett Common Stock had an average annualized turnover that was substantially higher than the average stock trading on the NYSE and NASDAQ, further supporting that it traded in an efficient market.

31. In short, the relatively high trading volume in Lannett Common Stock throughout the Class Period supports the conclusion that the market for Lannett Common Stock was efficient.

C. CAMMER FACTOR 2: ANALYST COVERAGE

32. The *Cammer* decision stated the following related to analyst coverage:

... [I]t would be persuasive to allege a significant number of securities analysts followed and reported on a company's stock during the class period. The existence of such analysts would imply, for example, the [auditor]

³⁰ Turnover velocity is simply the average trading volume as a percentage of shares outstanding (the first *Cammer* Factor) expressed in dollar terms:

Turnover Velocity Ratio = (Volume x Price)/(Shares Outstanding x Price) = Dollars Traded/Dollars Outstanding.

³¹ Turnover velocity for the NYSE and NASDAQ is calculated from data provided by the World Federation of Exchanges. See <https://www.world-exchanges.org/home/index.php/statistics/monthly-reports>.

reports were closely reviewed by investment professionals, who would in turn make buy/sell recommendations to client investors.³²

33. Analyst coverage can be important evidence of efficiency. Significant analyst coverage implies that there is sufficient interest in a company and its securities, that there is an active market for information regarding the company and its securities, and that the information is widely distributed.

34. During the Class Period, there was an abundance of analyst coverage for Lannett. **Exhibit 4** shows that there were at least 432 reports issued during the Class Period and 16 separate firms that had equity analysts issue reports on Lannett, including major firms such as Roth Capital Partners, LLC, Oppenheimer and Co., BMO Capital, and Deutsche Bank.³³ These reports served the purpose of disseminating publicly available information along with commentary, news, updates, analyses, and recommendations of the analysts to investors. The extensive coverage of Lannett by securities analysts supports the conclusion that Lannett Common Stock traded in an efficient market throughout the Class Period.

35. Since 1989, when the *Cammer* decision was rendered, there has been a significant increase in alternative methods by which publicly available information about publicly -traded securities is disseminated to investors. For example, since the *Cammer* decision, through the Internet, 24-hour cable news networks, email, RSS feeds,³⁴ and other media, the ability of

³² *Cammer*, 711 F. Supp. at 1286.

³³ I obtained Lannett analyst reports from Investext. I also obtained a collection of reports from Seeking Alpha. The number of analyst reports I identify is likely understated since many are not available through third party data providers such as Investext. For example, it is clear that analysts from Axiom Capital Management Inc., Needham & Company, LLC, and Raymond James & Associates participated on earnings conference calls during the Class Period, but I did not have access to research reports of those firms through Investext in connection with preparing this report. (See “FY 2014 Earnings Call Transcripts,” *S&P Capital IQ*, August 27, 2014 and “FQ2 2016 Earnings Call Transcripts,” *S&P Capital IQ*, February 3, 2016).

³⁴ RSS is an acronym for Really Simple Syndication or Rich Site Summary. RSS files are formed as XML files and are designed to provide content summaries of news, blogs, forums or website content. The RSS feeds are generally simple headlines and brief descriptions; if the user is interested, the user can click to see additional information. Content viewed in the RSS reader or news aggregator is known as an RSS feed. RSS is becoming increasingly popular.

individual and institutional investors to obtain information about publicly-traded securities and the market in general has revolutionized the manner in which investors and investment professionals receive and process information.

36. Moreover, information regarding the market price, the current bid-ask spread, and the ability to trade online is available almost instantaneously via the Internet for anyone with an online brokerage account. Thus, in addition to the substantial analyst coverage of Lannett, there were many other sources of public information dissemination. For example, there was substantial public press regarding Lannett. A search for articles classified as related to Lannett by Factiva over the Class Period resulted in 1,401 unique articles.³⁵ In addition, there were numerous SEC filings available online at the SEC EDGAR search database at no cost, as well as various other sources of public information available throughout the Class Period that I do not attempt to quantify. The degree of news coverage and publicly available information further supports the conclusion that there was substantial supply of, and demand for, information regarding Lannett in the public arena throughout the Class Period.

37. In summary, the number of analyst reports and the substantial public dissemination of news and other information regarding Lannett provides evidence of a robust and active market

since it is a free and easy way to promote a site and its content without the need to advertise or create complicated content sharing partnerships (*see* <http://www.rss-specifications.com/>, and <http://www.rss-specifications.com/what-is-rss.htm>).

³⁵ Factiva is a business information and research tool owned by Dow Jones & Company. Factiva aggregates content from both licensed and free sources, and provides organizations with search, alerting, dissemination, and other information management capabilities. I first identified 1,401 unique articles as a result of a search for “All Sources” with the company field “Lannett Company, Inc” or the keyword field “Lannett Company.” Articles flagged under the keyword fields “52-week highs and lows”, “Diary-Non,” and “Diary” were excluded from the analysis. Duplicate articles have been removed by a proprietary function accessible in Factiva’s search builder. I acknowledge that this may not reflect all news as the Factiva database is limited to certain sources and content type. In addition to Factiva, I also included any articles identified in the complaint.

for public information about the Company and evidence that Lannett's Common Stock traded in an efficient market during the Class Period.

D. CAMMER FACTOR 3: MARKET MAKERS

38. A market maker is a firm that is ready to buy or sell a particular stock on a regular and continuous basis.³⁶ The third *Cammer* factor states:

For over the counter markets without volume reporting, the number of market makers is probably the best single criterion. Ten market makers for a security would justify a substantial presumption that the market for the security is an efficient one; five market makers would justify a more modest presumption.³⁷

39. The premise that the number of market makers can serve as an efficiency criterion relates to the notion that market makers are:

... [P]resumably knowledgeable about the issuing company and the stocks' supply and demand conditions (i.e., the "order flow"). Therefore, it is believed the larger the number of market makers in a given security, the more information is available about it and the quicker its dissemination in the price.³⁸

40. Lannett Common Stock traded on a major exchange (i.e., the NYSE) with continuous public price and volume reporting, as opposed to an over-the-counter market without volume reporting, which is the context in which *Cammer* indicated this was a relevant criterion.³⁹

On such over-the-counter markets, there may be reason for concern regarding liquidity and information dissemination. However, these concerns are generally not applicable to stocks

³⁶ See <http://www.sec.gov/answers/mktmaker.htm>.

³⁷ *Cammer*, 711 F. Supp. at 1293.

³⁸ Barber, B., et al., The Fraud-on-the-Market Theory and the Indicators of Common Stocks' Efficiency, 19 J. CORP. L. 285 (1994), 291.

³⁹ See *Cammer*, 711 F. Supp. at 1292, citing Bromberg & Lowenfels: "We think that, at a minimum, there should be a presumption – probably conditional for class determination – that certain markets are developed and efficient for virtually all the securities traded there: the New York and American Stock Exchanges, the Chicago Board Options Exchange and the NASDAQ National Market System."

trading on large, modern exchanges such as the NYSE and NASDAQ, which are presumed to be efficient, report volume and trade details, and tend to have rules that virtually guarantee a liquid market.⁴⁰

41. The NYSE and NASDAQ are two of the largest and most liquid security exchanges in the world with billions of shares traded each day. Unlike over-the-counter markets that rely on decentralized market makers providing liquidity for trading, the NYSE and NASDAQ rely on a computerized system to match orders and provide quotes.⁴¹ The minimum requirements to be listed on the NYSE or NASDAQ and remain in good standing virtually guarantee a liquid market for that security. Therefore, the number of “market makers” itself is not a particularly relevant metric in this case.

42. Nevertheless, according to Bloomberg, throughout the vast majority of the Class Period, there were 130 market makers for Lannett Common Stock.⁴² Therefore, Lannett Common Stock easily meets the letter and spirit of this factor, further supporting the efficiency of the market during the Class Period.

E. CAMMER FACTOR 4: SEC FORM S-3 ELIGIBILITY

43. The fourth *Cammer* factor is SEC Form S-3 eligibility, which states,

...[I]t would be helpful to allege the Company was entitled to file an S-3 Registration Statement in connection with public offerings or, if ineligible, such ineligibility was only because of timing factors rather than because the minimum stock requirements set forth in the instructions to Form S-3 were

⁴⁰ For example, there are rules for minimal market capitalization and specialists are *required* to maintain an orderly market; *see Section 102* <http://wallstreet.cch.com/LCM/Sections/>. *See also*, William Sharpe, Gordon J. Alexander & Jeffrey W. Bailey, *Investments*, Prentice Hall, 45-53 (5th ed. 1995); Frank J. Fabozzi, Franco Modigliani & Frank J. Jones, *Foundations of Financial Markets and Institutions*, Prentice Hall, Chapter 18 – Appendix A (4th ed. 2010).

⁴¹ For NYSE, *see* <https://www.nyse.com/market-model>; and <https://www.nasdaqtrader.com/Trader.aspx?id=TradingUSEquities>, *see* http://www.nasdaq.com/includes/Anatomy_of_a_Trade_FactSheet.pdf; <http://www.nasdaqomx.com/transactions/trading/equities>; <http://www.nasdaq.com/about/MarketMechanics.stm>.

⁴² Bloomberg RANK function. Market maker data for Lannett is only available on Bloomberg following January 1, 2015.

not met. Again, it is the number of shares traded and value of shares outstanding that involve the facts which imply efficiency.⁴³

44. SEC Form S-3 allows certain companies that have previously provided sufficiently high levels of public information to incorporate prior SEC filings by reference into current filings and not repeat the information, since it is already deemed to be widely publicly available.⁴⁴ In order to be eligible to issue a Form S-3, among other things, a company 1) must be subject to the Securities Exchange Act of 1934 reporting requirements for more than one year, 2) must have filed all documents in a timely manner for the past twelve months, and 3) must show that it has not failed to pay dividends or sinking funds nor defaulted on debts or material leases. Eligibility to file a Form S-3 is confirmatory evidence of efficiency, not a requirement.

45. A Form S-3 allows a company to register unspecified amounts of different specified types of securities using a single form. I have found no evidence that Lannett was not S-3 eligible throughout the Class Period. In fact, Lannett filed a Form S-3ASR during the Class Period on May 12, 2017.⁴⁵ While a Form S-3 is a registration statement for specified transactions by certain issuers, a Form S-3ASR is a type of Form S-3, but only “well-known seasoned issuers” are eligible to file S-3ASRs.⁴⁶ Therefore, Lannett meets this *Cammer* efficiency factor, which supports the conclusion that Lannett Common Stock traded in an efficient market.

F. CAMMER FACTOR 5: PRICE REACTION TO NEW INFORMATION

46. The fifth *Cammer* factor relates to how the price of a security reacts to new, company-specific information and states:

⁴³ *Cammer*, 711 F. Supp. at 1287.

⁴⁴ For additional information, see www.sec.gov/about/forms/forms-3.pdf.

⁴⁵ <https://www.sec.gov/Archives/edgar/data/57725/000104746917003383/0001047469-17-003383-index.htm>.

⁴⁶ <https://www.sec.gov/about/forms/forms-3.pdf>.

... [O]ne of the most convincing ways to demonstrate [market] efficiency would be to illustrate, over time, a cause and effect relationship between company disclosures and resulting movements in stock price.⁴⁷

47. Establishing a causal connection between new company-specific events and movements in the market price is convincing evidence of market efficiency. A technique often relied upon, both inside and outside of the context of litigation, to establish such a causal connection is called an “event study.” An event study is a well-accepted statistical method utilized to isolate the impact of information on market prices.⁴⁸ Indeed, academics used event studies as one tool for evaluating the efficient market hypothesis in the first place. Event studies have been used for over 40 years and have appeared in hundreds if not thousands of academic articles as scientific evidence in evaluating how new information affects securities prices.⁴⁹

48. An event study is a technique used to measure the effect of new information on the market prices of a company’s publicly traded securities. New information may include, for example, company press releases, earnings reports, SEC filings, and news reports or analyst reports. An event study is conducted by specifying a model of expected price movements conditioned on outside market factors and then testing whether the deviation from expected price movements is sufficiently large that simple random movement can be rejected as the cause.

49. To analyze cause and effect, I performed an event study to determine whether Lannett Common Stock reacted to earnings announcements in a manner significantly different from how the stock moved on days with no Lannett-related news. Based on the event study I performed, which explicitly controls for market and industry factors, I find that there is a clear cause-and-effect relationship between new public information about Lannett and the market

⁴⁷ *Cammer*, 711 F. Supp. 1291.

⁴⁸ A. Craig MacKinlay, *Event Studies in Economics and Finance*, 35 J. ECON. LITERATURE, 13 (1997).

⁴⁹ John J. Binder, *The Event Study Methodology Since 1969*, 11 REV. QUANTITATIVE FIN. & ACCT., 111 (1998).

price of Lannett Common Stock. I now describe in further detail the event study methodology, the events I test, and the results.

50. A well-accepted method for performing an event study is to estimate a regression model over some period of time (an “estimation window”) to observe the typical relationship between the market price of the relevant security and broad market factors.⁵⁰ I have performed such an analysis in this matter where I evaluate the relationship between Lannett Common Stock’s daily returns (percentage change in price) controlling for the S&P 500 Total Return Index (the “Market Index”) and an equal weighted peer index, hereafter referred to as the “Peer Index.”⁵¹

51. For each trading day analyzed, I constructed a regression model using data from the prior 120 trading days (roughly six months).⁵² By using a “rolling” estimation window, it allows for the relationship between Lannett Common Stock, industry and market factors, as well as firm-specific volatility to update over time according to the data observed over the most recent 120 trading day period. Use of a rolling model to account for changing volatility and evolving relationships among market indices is accepted in peer-reviewed literature.⁵³

52. The model indicates that there is a positive correlation between Lannett Common Stock and the control variables. In other words, the movement of the Market Index and Peer

⁵⁰ A “regression” or “regression model” is a statistical technique for measuring the ability of one or more variables (the “independent variables”) to “explain” another variable of interest (the “dependent variable”). In this case, the daily percentage change in Lannett Common Stock (the Lannett daily return) is the dependent variable and the contemporaneous daily returns for a market and peer index are the independent variables. For a general discussion of regression analysis, see Damodar N. Gujarati, *Basic Econometrics*, McGraw Hill, Chapters 1-3 (3rd ed. 1995).

⁵¹ The Peer Index is an equal-weighted index using the returns of the thirty-one companies that were members of the Dow Jones US Pharmaceutical Index during the Class Period. The returns of the Peer Index are net of the S&P 500 Total Return Index.

⁵² A. Craig MacKinlay, *Event Studies in Economics and Finance*, 35 J. ECON. LITERATURE, 15 (1997): “For example, in an event study using daily data and the market model, the market model parameters could be estimated over the 120 days prior to the event.”

⁵³ Phillip A. Braun, *Good News, Bad News Volatility, and Betas*, 50 J. FIN. 1575, 1597 (1995).

Index helps explain the price movements of Lannett Common Stock during the Class Period. For instance, choosing a day in the Class Period purely as an example, February 18, 2016 and looking at the regression results based on the 120 days prior to that day, the estimated coefficient for the S&P 500 is 1.17 which means that a 1% rise in the S&P 500 predicts a 1.17% increase in returns for Lannett Common Stock. The estimated coefficient for the Peer Index is 1.09, meaning that the expected return for Lannett Common Stock is about a 1.09% increase for every 1% increase in the Peer Index over and above the return of the S&P 500. **Exhibit 5** plots the estimated coefficients for the rolling regression models for each day during the Class Period.

53. Another important statistic from the regression is the standard deviation of the errors, which measures the degree of imprecision in the predictions from the model. Put another way, this measure provides a metric for how much unexplained price movement remains in Lannett Common Stock after controlling for the Market Index and Peer Index. For instance, on the example date, February 18, 2016, the model predicted that absent any value relevant new firm-specific information, the price of Lannett Common Stock would decrease by 3.32% because the S&P 500 was down 0.46% and the Peer Index was down 2.31%.⁵⁴ Because of the inherent randomness observed in stock price returns, I do not expect the model to predict returns exactly.

54. In this example, I observe an actual return of -4.13%. Thus, the “abnormal return” for this day is -0.82% (the actual return of -4.13% minus the predicted return of -3.32%). I then rely on the standard deviation of the errors from the regression model to tell if this abnormal return of -0.82% is sufficiently large that I can reject random movement as the explanation.

⁵⁴ The predicted return of -3.32% is found as follows: $1.17 * -0.46\%$ (Coefficient on Market Index *times* Market Index return) $+ 1.09 * -2.31\%$ (Coefficient on Peer Index Return *times* Peer Index Return) -0.25% (constant term from regression).

55. The test for whether randomness can be rejected is done by calculating what is known as a “t-statistic,” which represents the number of standard deviations between the actual observation and the prediction. For the example date, an abnormal return of -0.82% represents -0.29 standard deviations or a t-statistic of -0.29 (abnormal return of -0.82% divided by the standard deviation of the errors of 0.028).⁵⁵ Using the standard assumption that, in the absence of new value relevant company-specific news, abnormal returns will be normally distributed around zero, probability theory implies that based on randomness alone, using a 95% confidence level and large sample size, the abnormal return should have a t-statistic greater than 1.96 (or less than -1.96) only 5% of the time.^{56, 57} Stating this point another way, there is a 95% confidence that the actual return will fall within 1.96 standard deviations of the predicted return unless there is some non-random explanation.

56. Since our example has a t-statistic of -0.29, the abnormal return is not statistically significant at the 95% confidence level, and I cannot reject randomness as the cause of the abnormal price movement with greater than 95% confidence. By contrast, if on a particular day one observes an abnormal return that has a t-statistic of a magnitude greater than 1.96 (statistically significant at the 95% confidence level) and one observes new value relevant firm-

⁵⁵ The standard deviation of the errors are plotted in **Exhibit 6**. The standard deviation of the error is also known as the standard error. “An estimate based on a sample is likely to be off the mark, at least by a small amount, because of random error. The standard error gives the likely magnitude of this random error, with smaller standard errors indicating better estimates.” The National Academies Press, Reference Manual on Scientific Evidence, Third Edition, 2011, p. 243.

⁵⁶ David I. Tabak & Frederick C. Dunbar, “Materiality and Magnitude: Event Studies in the Courtroom,” *Litigation Services Handbook, The Role of the Financial Expert*, Ch. 19, (3rd ed. 2001). The financial economics literature often identifies the 90% threshold as a relevant boundary for significance as well.

⁵⁷ Basic statistics state that for a normally distributed variable, 5% of the observations are expected to fall outside 1.96 standard deviations from the mean. “The normal distribution has the property that the area within 1.96 standard errors of the mean is equal to 95% of the total area.” The National Academies Press, Reference Manual on Scientific Evidence, Third Edition, 2011, p. 342.

specific information, one would reject randomness as the explanation with 95% confidence and infer that the new information is the cause of the stock price movement.

57. **Exhibit 6** shows that the standard deviation of the errors for Lannett Common Stock varied over the Class Period. By adopting the rolling regression model, my event study explicitly adjusts for the changing Company-specific volatility.

58. To analyze cause-and-effect, I examined the price response of Lannett Common Stock to the twenty earnings announcements and preannouncements during the Class Period. *See Exhibit 7.*

59. There are many academic articles and financial treatises that explain theoretically and demonstrate empirically that the release of company earnings information often (but not necessarily always) causes a significant change in investors' beliefs regarding the value of a security.⁵⁸ Also, newly released earnings reports by a company are an objective set of news to identify and test. Considering the seventh earnings release listed in **Exhibit 7** as an example, after market close on May 6, 2015 the Company announced third quarter results that were below expectations.⁵⁹ In response, on May 7, 2015 the market price of Lannett Common Stock decreased by 12.07%, compared to the predicted return of 1.08%. Thus, the abnormal return on May 7, 2015 was -13.15%. With a t-statistic of -6.15, this abnormal price movement is

⁵⁸ William H. Beaver, "The Information Content of Annual Earnings Announcements: New Insights from Intertemporal and Cross-Sectional Behavior," *Empirical Research in Accounting: Selected Studies*, 1968, supplement to the *Journal of Accounting Research*, Vol. 6, 67-92 (1968); Robert G. May, "The Influence of Quarterly Earnings Announcements on Investor Decisions as Reflected in Common Stock Price Changes," *Empirical Research in Accounting: Selected Studies*, 1971, supplement to the *Journal of Accounting Research*, Vol. 9, 119-163 (1971); Joseph Aharony & Itzhak Swary, "Quarterly Dividend and Earnings Announcements and Stockholders' Returns: An Empirical Analysis," *The Journal of Finance*, Vol. 35, No. 1, 1-12 (1980).

⁵⁹ See "Eyes Shifting To Low-Single Digit Growth In FY16, But Prospects For FDA Approvals And/Or Acquisitions Keep Us Intrigued. Reiterate Buy Rating, Lowering Price Target To \$62.," *Craig-Hallum Capital Group LLC*, May 7, 2015 and "F3Q15 Results: Oops, Couldn't Do It Again," *Oppenheimer*, May 7, 2015.

statistically significant at the 99% level, and I therefore have scientific evidence that Lannett Common Stock reacted rapidly to this new information.

60. Similar to this example, I analyzed the market reaction to Lannett's other earnings announcements I identified above. In total, of the twenty earnings announcements or preannouncements Lannett issued during the Class Period, ten resulted in statistically significant price movements above the 95% confidence level.^{60,61}

61. **Exhibit 7** presents a summary of the earnings releases during the Class Period.

62. I then compared these results against the 216 days during the Class Period where I identified no Lannett-related news from the Factiva database and where there were no analyst reports or SEC filings issued to my knowledge. Of these 216 days, there were only 10 days with a statistically significant price movement. Thus, during the Class Period there was a statistically significant price reaction at the 95% confidence level or greater on 50.0% of the earnings announcements, but when compared to days with no Lannett-related news, I observed only 4.6% statistically significant reactions.^{62,63} This is powerful scientific evidence of a cause-and-effect relationship between new publicly released information concerning the Company and changes in the price of Lannett Common Stock.

63. Furthermore, on the 216 days with no news, the average change in price of Lannett Common Stock was 1.76%, after controlling for market and industry factors, while the average

⁶⁰ It is not unusual to observe many earnings announcements that are not statistically significant. This happens, for instance, in quarters where there was an insufficient surprise and/or the firm roughly met expectations, if the firm offered little change in guidance, and/or if there was a mix of both positive and negative information.

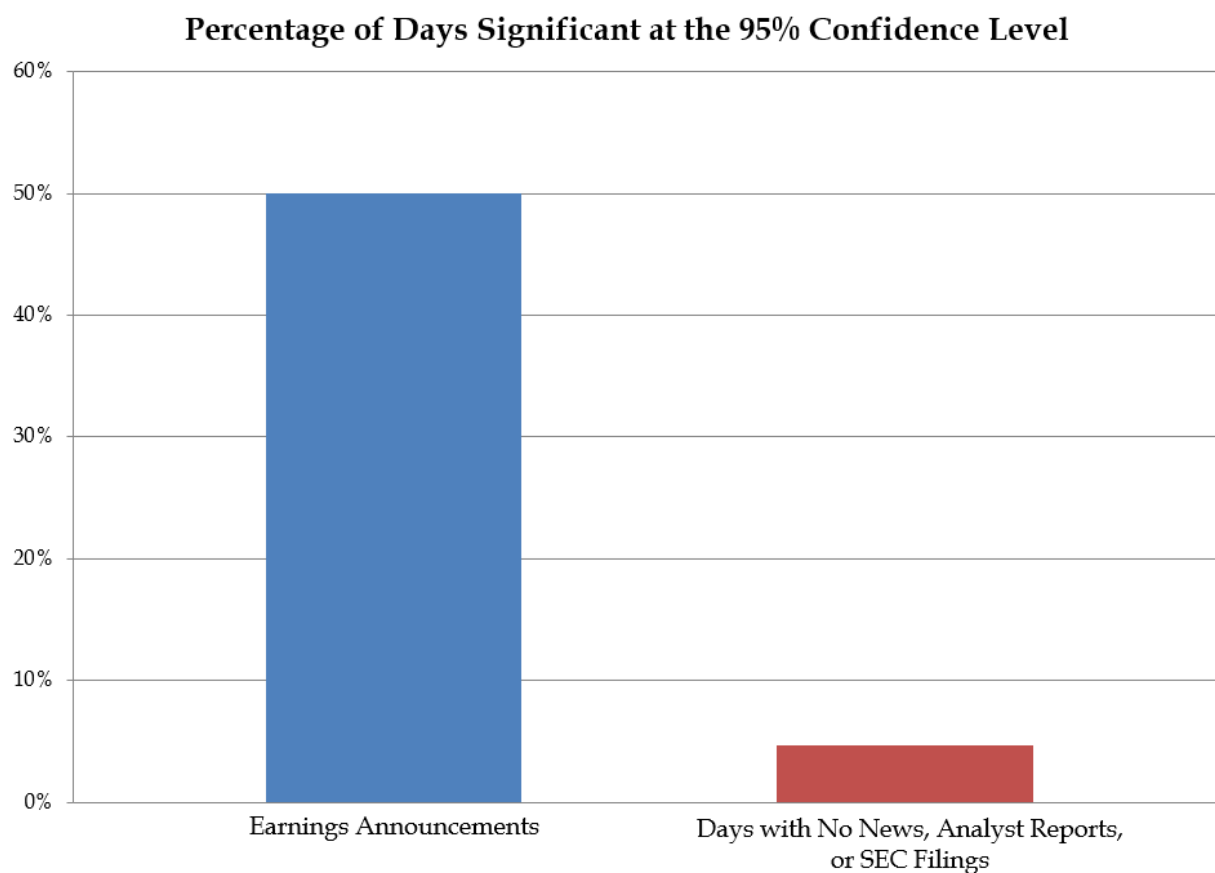
⁶¹ Of the ten earnings announcements statistically significant at the 95% confidence level, nine of these are also statistically significant at the 99% level. Additionally, one earnings preannouncement date is statistically significant at the 90% level.

⁶² This difference between 50.0% and 4.6% is itself statistically significant at the 99% confidence level.

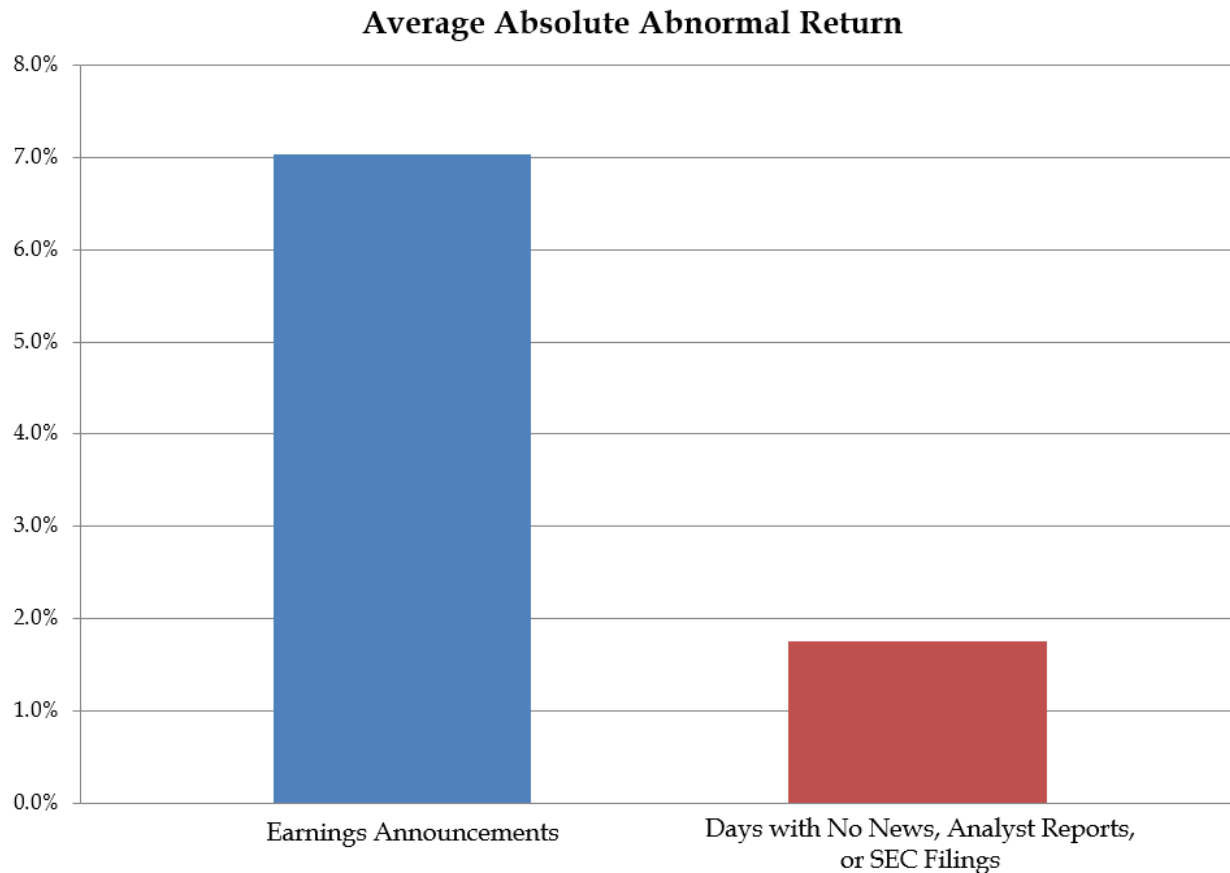
⁶³ Based on randomness alone, one would expect 5% of the no news days to be statistically significant. The observed rate of 4.6% is not statistically significantly different than 5%.

change in Lannett Common Stock on earnings announcement dates after controlling for market and industry factors was 7.03%. In other words, the average magnitude of stock price movement on earnings announcement days was about 4 times higher than on days with no news.⁶⁴ Again, this demonstrates that on days when important company-specific information is released to the market, Lannett's stock price moves much more than on days where there is no company-specific news. This provides further evidence of a cause-and-effect relationship between company-specific news and changes in the price of Lannett Common Stock, and thus an efficient market.

64. The bar charts below summarize this analysis while **Exhibit 8** gives more detail.



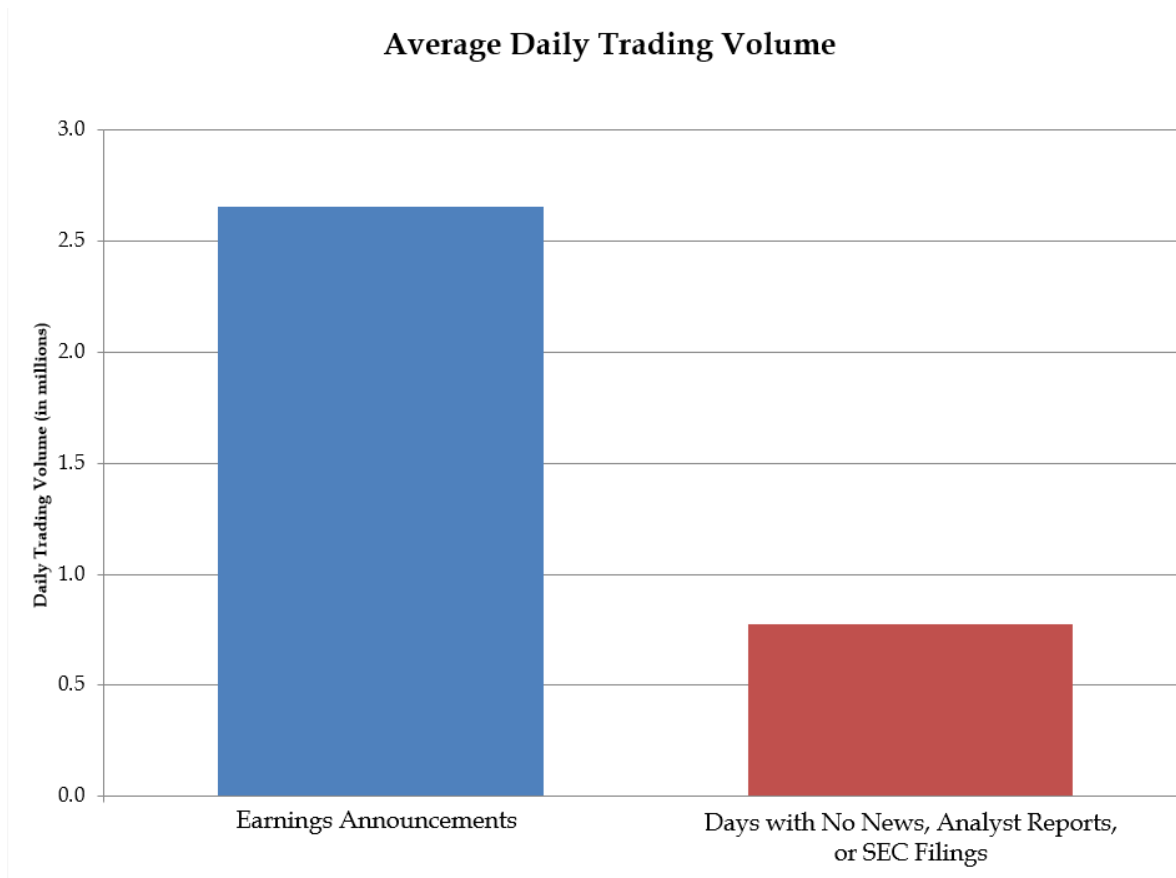
⁶⁴ This difference between 7.03% and 1.76% is itself statistically significant at the 99% confidence level.



65. Finally, when important Company-specific news is released to the market (e.g. earnings announcements), the daily trading volume of Lannett Common Stock also tends to be much higher⁶⁵ than on days where there is no news. See **Exhibit 8**. For instance, the average daily trading volume of the twenty days with earnings announcements was 2.7 million. Compare this to the average daily trading volume of 0.8 million for days where there is no Lannett news in the Class Period.⁶⁶ The bar chart below summarizes this analysis.

⁶⁵ William H. Beaver, “The Information Content of Annual Earnings Announcements,” *Empirical Research in Accounting: Selected Studies, 1968*, supplement to the *Journal of Accounting Research*, Vol. 6, 69, 84 (1968).

⁶⁶ This difference between 2.7 million and 0.8 million is itself statistically significant at the 99% confidence level.



66. The bar charts above establish a strong cause-and-effect relationship between new, Company-specific news and rapid changes in the price of Lannett Common Stock. The earnings announcement days have a much greater percentage of significant price movements, higher daily trading volume on average, and statistically significantly larger price changes than those found on days with no news.

67. In conclusion, the event study analysis presented in this section demonstrate a clear cause-and-effect relationship between new material news and changes in the market price of Lannett Common Stock during the Class Period.

G. KROGMAN FACTOR 1: MARKET CAPITALIZATION

68. In *Krogman v. Sterritt*, the court noted that economic theory includes other possible relevant factors for determining whether a stock trades in an efficient market, in addition to the

Cammer factors.⁶⁷ The *Krogman* Court held, “[m]arket capitalization, calculated as the number of shares multiplied by the prevailing share price, may be an indicator of market efficiency because there is a greater incentive for stock purchasers to invest in more highly capitalized corporations.”⁶⁸ Furthermore, Thomas and Cotter find that firms with a larger market capitalization tend to have “larger institutional ownership and tend to be listed on the New York Stock Exchange with a greater analyst following.”⁶⁹ Therefore, market capitalization is another quantifiable measure that is likely correlated with efficiency.

69. Lannett Common Stock had a higher market capitalization than the majority of NYSE and NASDAQ stocks during the Class Period, thus suggesting this factor is supportive of efficiency. There were at minimum 35.6 million shares of Lannett Common Stock outstanding throughout the Class Period.⁷⁰ Based on the market price, the market capitalization for Lannett Common Stock averaged \$1.28 billion during the Class Period, as shown in **Exhibit 9. Exhibit 10** shows that during the Class Period, Lannett Common Stock’s market capitalization ranged from the 46th to 70th percentile of the combined NYSE and NASDAQ markets for the applicable quarters during the Class Period.⁷¹ In other words, over the Class Period, Lannett Common Stock had a higher market capitalization than at least 46% of the firms on the combined NYSE and NASDAQ exchanges. This factor is supportive of market efficiency for Lannett Common Stock throughout the Class Period.

⁶⁷ *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001) (“*Krogman*”). The factors identified by the *Krogman* Court are 1) market capitalization, 2) size of float of common stock, and 3) bid-ask spread.

⁶⁸ *Krogman*, 202 F.R.D. at 478.

⁶⁹ Randall S. Thomas & James F. Cotter, *Measuring Securities Market Efficiency in the Regulatory Setting*, 63 LAW & CONTEMP. PROBS. 117 (2000).

⁷⁰ Shares outstanding data obtained from SEC filings.

⁷¹ Bloomberg.

70. Given that the market capitalization for Lannett Common Stock was consistently large relative to other publicly traded companies, this factor is supportive of market efficiency for Lannett Common Stock.

H. KROGMAN FACTOR 2: THE BID-ASK SPREAD

71. The second *Krogman* factor considers the bid-ask spread for a security, reasoning that: “[a] large bid-ask spread is indicative of an inefficient market, because it suggests that the stock is too expensive to trade.”⁷² The bid-ask spread is an important indicator of the degree to which a market is developed. The bid-ask spread represents a measure of the cost to transact in a market. Narrow bid-ask spreads indicate less uncertainty regarding valuation and that reasonably sized trades will not substantially impact the market price. Wider bid-ask spreads indicate greater liquidity costs and less ability to trade without moving the market price. In addition, the wider the bid-ask spread, the more costly it is to arbitrage away small inefficiencies because the cost of the trade could be greater than the perceived inefficiency. Thus, a narrow bid-ask spread supports the presence of an efficient market where the prices reflect publicly available information.

72. I analyzed bid-ask spreads for Lannett Common Stock during the Class Period. **Exhibit 11** shows that during this period, the time-weighted average percentage bid-ask spread for Lannett Common Stock in each month was between 0.04% and 0.24%. This is well below the average and median bid-ask spread of a random sample of 100 other common stocks trading on the NYSE and NASDAQ in October 2017 (the full month of the Class Period during which Lannett had the largest percentage bid-ask spread).^{73,74} **Exhibit 11** demonstrates that Lannett

⁷² *Krogman*, 202 F.R.D. at 478.

⁷³ Quote data for Lannett and other publicly traded stocks were obtained from the TICK database. *See* <https://tickapi.tickdata.com/>.

⁷⁴ I constructed a random sample because I am not aware of any exchange-wide reporting of a verage or median bid-ask spreads. Determining the average bid-ask spread for the entire market would be a very costly and data intensive

Common Stock had a monthly average bid-ask spread of 0.24% in October 2017, while a randomly selected group of 100 other common stocks on the NYSE and NASDAQ had an average bid-ask spread of 1.59%.⁷⁵ Accordingly, Lannett Common Stock's bid-ask spread was low during the Class Period, and this factor further supports market efficiency for Lannett Common Stock.

I. KROGMAN FACTOR 3: PUBLIC FLOAT

73. The *Krogman* Court's final factor is that the public float (i.e., the amount of shares not held by insiders) is considered to be indicative of market efficiency. As shown in **Exhibit 12**, during the Class Period, insiders held 28.04% of all outstanding shares of Lannett Common Stock, meaning that 71.96% of Lannett's shares were held by non-insiders. This large percentage of shares held by non-insiders supports market efficiency.

J. ADDITIONAL FACTOR 1: INSTITUTIONAL OWNERSHIP

74. Institutional investors are considered to be sophisticated and well-informed, with access to most publicly available information for the stocks that they own. These investors include mutual funds, pension funds, investment banks, and other types of large financial institutions that have substantial resources to analyze the securities they purchase for their portfolios. As **Exhibit 12** shows, 633 separate institutions owned Lannett Common Stock during the Class Period, holding on average 86.28% of public float. The substantial level of institutional

process, therefore I adopted a random sampling methodology. I determined the constituents of the NYSE and NASDAQ for October 2017 and then randomly generated a list of 100 common stock securities. I then calculated the time-weighted average monthly bid-ask spread for October 2017.

⁷⁵ The time-weighted average bid-ask spread was calculated by taking the average of the spread during trading hours on the primary exchange of each security, weighted by the amount of time each quote prevails in the market. That is, I take the weighted average quote, with the weight being the number of seconds between that quote and the next quote that occurs. Spread is calculated as the difference between the bid price and ask price divided by the midpoint of the bid-ask spread. I calculated the National Best Bid and Offer using the data filtering procedures described in Roger D. Huang & Hans R. Stoll, *Dealer versus auction markets: A paired comparison of execution costs on NASDAQ and the NYSE*, 41 J. FIN. ECON. 313 (1996).

ownership of Lannett Common Stock during the Class Period coupled with the high trading volume further supports a conclusion of market efficiency.

K. ADDITIONAL FACTOR 2: AUTOCORRELATION

75. If previous price movements of a security have the ability to predict future price movements, then it is said to be “autocorrelated.” Autocorrelation is relevant to efficiency because if the autocorrelation is persistent and sufficiently large that a trader could profit from taking advantage of the autocorrelation, it means that past price movements are not fully reflected in the current price, which would suggest market inefficiency.

76. Autocorrelation may occur from time to time for random reasons or due to the pattern of firm-specific news. Efficiency would only be violated, however, if the autocorrelation were large enough and persistent enough that a trader could consistently earn riskless profits over time.⁷⁶

77. A well-accepted methodology to test for the existence of autocorrelation is to run a regression analysis that tests whether, on average, the abnormal return from the previous day has a statistically significant effect on the abnormal return today.⁷⁷ If the previous day’s abnormal return has no statistically significant predictive power, then there is no evidence of autocorrelation.

78. **Exhibit 13** displays the autocorrelation coefficient for Lannett Common Stock using the abnormal returns from the event study model described above. The coefficient for the Class Period is not statistically different than zero, meaning there is no evidence of statistically

⁷⁶ Doron Avramov, Tarun Chordia & Amit Goyal, *Liquidity and Autocorrelations in Individual Stock Returns*, 61 J. FIN. 2365, 2367-68 (2006); Michael C. Jensen, *Some Anomalous Evidence Regarding Market Efficiency*, 6 J. FIN. ECON. 95-101 (1978).

⁷⁷ William H. Greene, *Econometric Analysis*, Prentice Hall, Sixth Edition, 2008, Chapter 19, p. 644.

significant autocorrelation. This result is thus inconsistent with the notion that an investor could consistently predict abnormal movements and earn arbitrage profits. Therefore, this factor also supports the conclusion that Lannett Common Stock traded in an efficient market throughout the Class Period.

L. ADDITIONAL FACTOR 3: OPTIONS

79. In addition to the factors analyzed above, there was also considerable option trading in Lannett Common Stock during the Class Period.⁷⁸ Academic articles have demonstrated that options written on existing assets can improve efficiency by permitting an expansion of the contingencies that are covered by the market.⁷⁹ Empirical analysis has shown that option listings are associated with a decrease in bid-ask spread and increase in quoted depth, trading volume, trading frequency, and transaction size – an overall improvement of the market quality of the underlying stocks.⁸⁰ Thus, this factor also supports that Lannett Common Stock traded in an efficient market throughout the Class Period.

VIII.DAMAGES

80. Counsel for the Plaintiffs also asked me to opine on whether per share damages could be measured for all Class members under Section 10(b) of the Exchange Act using a common methodology that is consistent with the Plaintiffs' theory of liability. There is a standard and well-accepted method for calculating class wide damages in cases under Section 10(b) of the Exchange Act. This method, typically referred to as the "out-of-pocket" method,

⁷⁸ For instance, according to iVolatility, there were 267,255 Lannett Common Stock put contracts and 393,790 Lannett Common Stock call contracts that traded during the Class Period.

⁷⁹ Stephen A. Ross, *Options and Efficiency*, 90 Q. J. ECON. 75 (1976).

⁸⁰ Raman Kumar, Atulya Sarin & Kuldeep Shastri, *The Impact of Options Trading on the Market Quality of the Underlying Security: An Empirical Analysis*, 53 J. FIN. 717 (1998).

states that damages are equal to the artificial inflation in the share price at the time of purchase minus the artificial inflation per share at the time of sale (or, if the share is not sold before full revelation of the fraud, the artificial inflation at the time of purchase, subject to the Private Securities Litigation Reform Act of 1995's ("PSLRA") "90-day lookback" provision, a formulaic limit on damages that also can be applied class-wide).⁸¹ The out-of-pocket method has been applied in virtually every matter in which I have observed or participated in as a consulting, testifying, or neutral expert.

81. Once the inflation per share has been quantified on each day during the class period, the computation of damages for each class member is formulaic based upon information collected in the claims process (*i.e.*, the investor's purchase and sale history for the security, which is routinely available from brokerage statements and/or other documents that provide evidence of securities transactions). Therefore, there is a well-accepted method to compute damages in Section 10(b) matters such as this.

82. Separate and apart from whether there is a common method for computing damages is the question of how to quantify the artificial inflation per share that is an input to the damages methodology. The quantification of the artificial inflation per share requires a detailed loss causation analysis.⁸² Nevertheless, whatever the method for determining the artificial inflation per share, it would be common to all class members.

⁸¹ Specifically, the PSLRA states: "...in any private action arising under this title in which the plaintiff seeks to establish damages by reference to the market price of a security, the award of damages to the plaintiff shall not exceed the difference between the purchase or sale price paid or received, as appropriate, by the plaintiff for the subject security and the mean trading price of that security during the 90-day period beginning on the date on which the information correcting the misstatement or omission that is the basis for the action is disseminated to the market." See, Private Securities Litigation Reform Act of 1995, dated December 22, 1995, 737, 748-49.

⁸² I have not been asked to conduct a loss causation analysis at this time. In my experience, loss causation analyses are often informed by information learned in discovery.

83. For example, the most widely-used technique to quantify artificial inflation starts from an event study that measures price reactions to disclosures that revealed the relevant truth concealed by the alleged material omissions and/or misrepresentations (i.e. a “corrective disclosure”).⁸³ Such an event study would also need to consider whether and to what extent any non-fraud related information (*i.e.* “confounding information”) contributed to the observed price movement. If there is such confounding information, disaggregating the price impact of corrective disclosures from confounding information may utilize valuation techniques and may depend on information learned through discovery. Determining the specific valuation approach necessary to perform a loss causation analysis that reasonably disaggregates corrective and confounding information is an inherently case-specific question that depends on specific facts and circumstances. Examples of such techniques include, but are not limited to, fundamental valuation analysis such as discounted cash flow methods, valuation multiple methods (i.e. price to earnings multiples, price to EBITDA multiples, price to revenue multiples, etc.), use of academic studies regarding the value of certain types of information, and other available valuations whether from securities analysts or made available through discovery. Regardless of the technique used, it is performed on a class-wide basis – in other words, the specific methodology applies regardless of the identity or circumstances of any individual class member.

84. The loss causation analysis would also require an analysis of how inflation per share may have evolved over the class period. Again, the nature of this analysis is intensely factual, case-specific, and may depend on information learned through discovery. For example, an often-used method is to assume “constant dollar inflation,” which implies that the artificial

⁸³ The event study I have performed for this report is for Market Efficiency purposes and is not an attempt at valuing artificial inflation.

inflation was the same dollar amount during the class period. In certain circumstances, it may be more reasonable to apply “constant percentage inflation,” which implies the price was inflated by a consistent percentage in the absence of additional disclosures. In other cases, the artificial inflation has evolved based upon the nature and timing of specific misstatements or the inflation varied on a daily basis as a result of information contained in internal documents obtained in discovery. To summarize, the determination of how artificial inflation evolved over the class period is also a case-specific, fact-specific loss causation exercise that can rely on valuation techniques including, but not limited to, event studies, fundamental valuation, contemporaneous valuations or documents, or some combination of the above. Once again, however, all of these loss causation methodologies are class-wide in nature and do not depend on the identity or circumstance of any specific investor.


85. Accordingly, although I have not been asked to calculate class-wide damages in this report, and such calculations would likely depend, in part, on the completion of discovery, and full development of the case record, based on my expertise and experience in dozens of similar matters and understanding the nature of the claims in this case, I conclude that damages in this action are subject to a well-settled, common methodology that can be applied to the Class as a whole.

IX. CONCLUSION

86. In sum, every factor analyzed supports my opinion that Lannett Common Stock traded in an efficient market during the Class Period. Furthermore, class-wide damages in this matter can be calculated on a class-wide basis using a common methodology.

87. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on October 1, 2020.



Chad Coffman

Exhibit 1

Summary of Efficiency Factors for Lannett Company

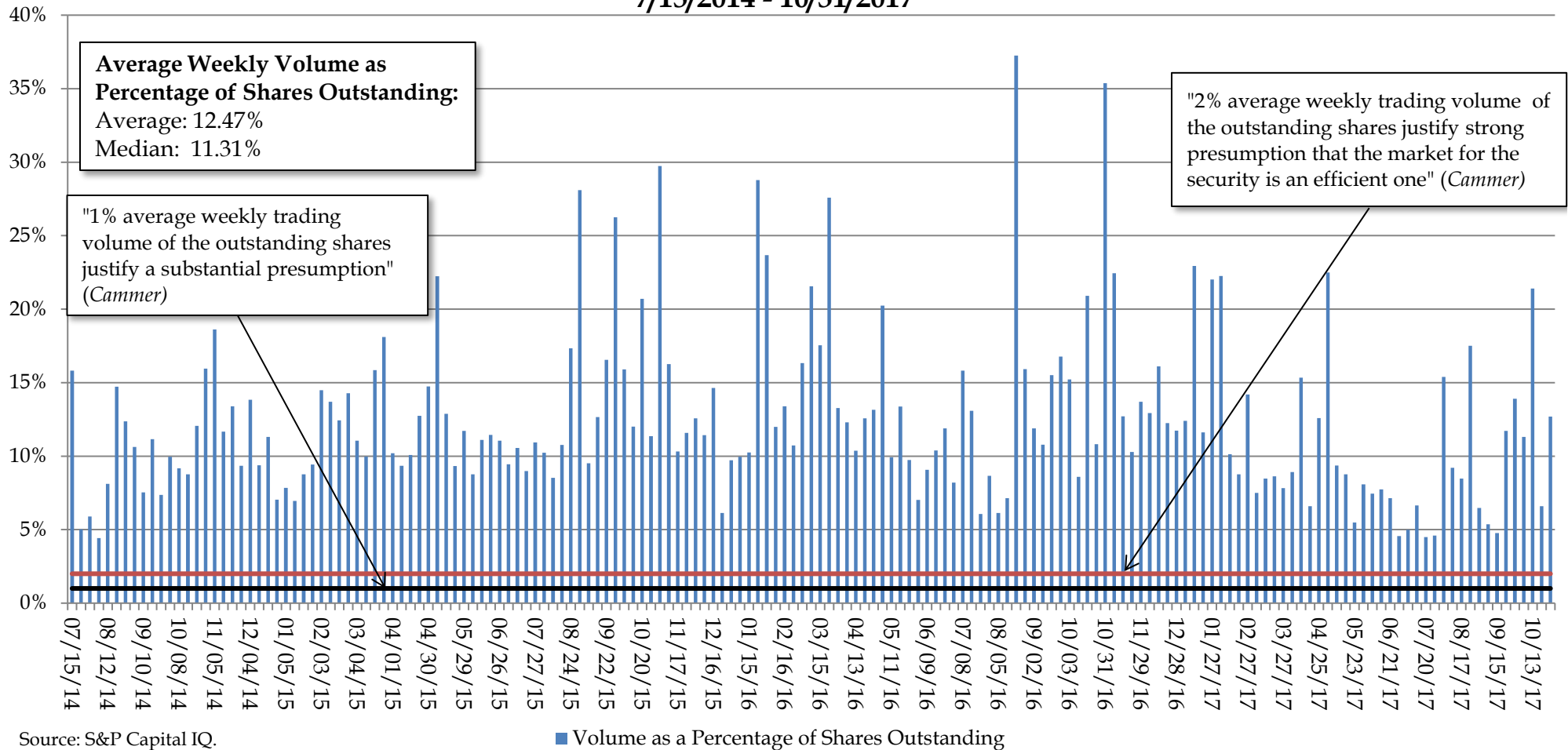
| Factor | Summary of Factor | Lannett |
|--|--|---|
| Average Weekly Trading Volume Cammer I | "Turnover measured by average weekly trading of 2% or more of the outstanding shares would justify a strong presumption that the market for a security is an efficient one; 1% would justify a substantial presumption." | <ul style="list-style-type: none"> The average weekly trading volume of 12.47%, as a percentage of shares outstanding, exceeds the standard of 2% that courts have suggested would justify a strong presumption of an efficient market (Note: 4.56 million shares traded weekly on average during the Class Period). |
| Analyst Coverage Cammer II | "...it would be persuasive to allege a significant number of securities analysts followed and reported on a company's stock during the class period. The existence of such analysts would imply, for example, the [auditor] reports were closely reviewed by investment professionals, who would in turn make buy/sell recommendations to client investors." | <ul style="list-style-type: none"> During the Class Period at least 16 securities analysts issued 432 analyst reports which implies that important information relevant to trading Lannett Common Stock was widely communicated to the market. |
| Market Makers Cammer III | "For over the counter markets without volume reporting, the number of market makers is probably the best single criterion. Ten market makers for a security would justify a substantial presumption that the market for the security is an efficient one; five market makers would justify a more modest presumption." | <ul style="list-style-type: none"> Because Lannett's shares were exchange-traded on the NYSE during the Class Period, not over the counter, this factor is satisfied. According to Bloomberg, throughout the Class Period, there were at least 130 market makers for Lannett Common Stock. |
| SEC Form S-3 Eligibility Cammer IV | "It would be helpful to allege the Company was entitled to file an S-3 Registration Statement in connection with public offerings or, if ineligible, such ineligibility was only because of timing factors rather than because the minimum stock requirements set forth in the instructions to Form S-3 were not met. Again, it is the number of shares traded and value of shares outstanding that involve the facts which imply efficiency." | <ul style="list-style-type: none"> Lannett filed a Form S-3ASR during the Class Period (on May 12, 2017). I have found no evidence to believe that Lannett was not S-3 eligible throughout the Class Period, thus satisfying this factor. |
| Price Reaction to New Information Cammer V | "...one of the most convincing ways to demonstrate [market] efficiency would be to illustrate, over time, a cause and effect relationship between company disclosures and resulting movements in stock price." | <ul style="list-style-type: none"> The event study demonstrates a clear cause and effect relationship. A statistical test shows a significant contemporaneous relationship between new firm-specific news and significant changes in the market price for Lannett Common Stock. |
| Market Capitalization | Firms with a larger market capitalization tend to have "larger institutional ownership and tend to be listed on the New York Stock Exchange with a greater analyst following." | <ul style="list-style-type: none"> As of 3/31/2015 and 9/30/2017, Lannett's market capitalization was \$2.45 billion and \$0.69 billion, respectively, which is at least the 46th percentile of all NYSE and NASDAQ stocks. Lannett Common Stock therefore easily meets this criterion. |
| Bid-Ask Spread | The bid-ask spread represents a measure of the cost to transact in a market. Narrow bid-ask spreads indicate less uncertainty regarding valuation and that reasonably sized trades will not substantially impact the market price. Wider bid-ask spreads indicate greater liquidity costs and less ability to trade without moving the market price. | <ul style="list-style-type: none"> During the Class Period, the average percentage bid-ask spread for Lannett Common Stock in each month ranged from 0.037% to 0.239%. Lannett's average percentage bid-ask spread was well below the mean and median bid-ask spread of a random sample of 100 other common stocks trading on the NASDAQ and NYSE in October 2017 (the full month when Lannett had the largest bid-ask spread). This supports a finding of efficiency. |
| Float and Institutional Ownership | Institutional investors are considered to be sophisticated, well-informed investors with access to most publicly available information for the stocks that they own. | <ul style="list-style-type: none"> On average over 71.96% of Lannett shares were held by non-insiders. 633 institutions held the vast majority of the public float throughout the Class Period which further supports the finding that Lannett Common Stock traded in an efficient market. |
| Autocorrelation | If autocorrelation is persistent and sufficiently large that a trader could profit from taking advantage of the autocorrelation, it suggests market inefficiency because past price movements are not fully reflected in the current price. | <ul style="list-style-type: none"> There was no evidence of statistically significant autocorrelation, which means that there was no systematic opportunity for a trader to profit from trading Lannett Common Stock based solely on its past price movements. This supports a finding of efficiency. |
| Options | Empirical analysis has shown that option listings are associated with a decrease in bid-ask spread and increase in quoted depth, trading volume, trading frequency, and transaction size – an overall improvement of the market quality of the underlying stocks. | <ul style="list-style-type: none"> There were 267,255 Lannett Common Stock put contracts and 393,790 Lannett Common Stock call contracts that traded during the Class Period. Lannett Common Stock therefore meets this criterion. |

Exhibit 2
Lannett Common Stock Price & Volume
7/15/2014 - 12/29/2017



Sources: Complaint and S&P Capital IQ.

Exhibit 3
Lannett Common Stock Average Weekly Trading Volume
as a Percentage of Shares Outstanding
7/15/2014 - 10/31/2017



Source: S&P Capital IQ.

Note:

- (1) Average weekly trading volume is calculated by calculating the average daily turnover (i.e. daily trading volume divided by shares outstanding) and multiplying by 5.
- (2) Median weekly trading volume is calculated by analyzing each five consecutive trading days (rather than calendar weeks) starting with the first day of the Class Period on July 15, 2014 through October 31, 2017. The last week consists of three trading days (i.e., 10/27/2017, 10/30/2017, 10/31/2017), and therefore, the average of the daily trading volume on these days is multiplied by five to get a comparable measure for the average weekly trading volume as a percentage of shares outstanding. The last week is excluded from the median calculation.

Exhibit 4

Summary of Securities Analyst Reports Issued for Lannett

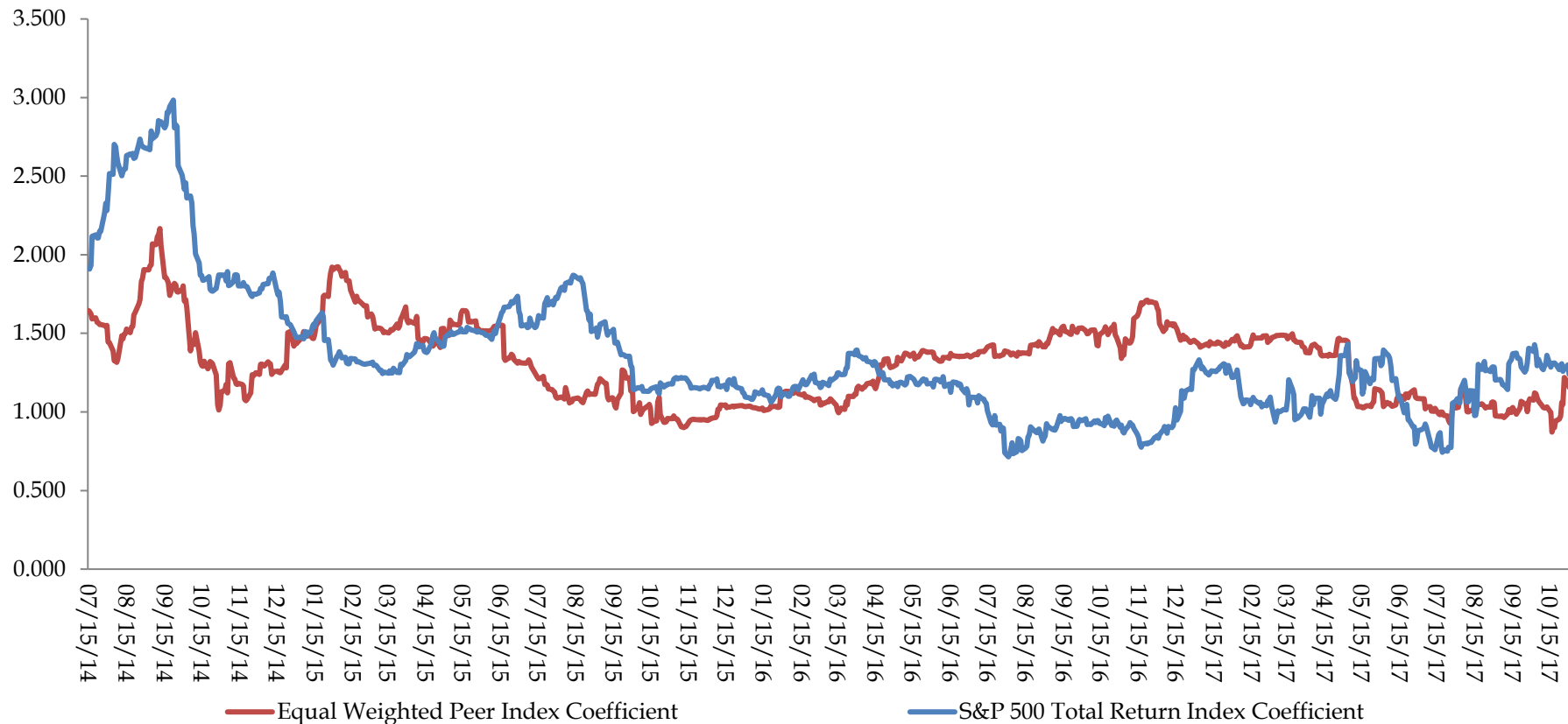
| Analyst Name | Reports Issued During the Class Period: 7/15/2014 -10/31/2017 |
|--------------------------------------|---|
| [1] ROTH CAPITAL PARTNERS, LLC | 138 |
| [2] MINKABU THE INFONOID, INC. | 46 |
| [3] OPPENHEIMER AND CO | 40 |
| [4] SEEKING ALPHA | 36 |
| [5] WRIGHT INVESTORS SERVICE | 24 |
| [6] CANACCORD GENUITY | 21 |
| [7] CRAIG HALLUM CAPITAL | 21 |
| [8] SUSQUEHANNA FINANCIAL GROUP LLLP | 19 |
| [9] SADIF ANALYTICS | 18 |
| [10] VALUENGINE, INC. | 16 |
| [11] BUYSSELLSIGNALS RESEARCH | 15 |
| [12] VALIDEA | 13 |
| [13] GLOBALDATA | 12 |
| [14] DEUTSCHE BANK | 9 |
| [15] BMO CAPITAL MARKETS | 3 |
| [16] MARKETLINE - COMPANY RESEARCH | 1 |
| Total | 432 |

Source: Investext and Seeking Alpha.

Note: Many analyst reports are not available through third party data providers (e.g. Investext); therefore, this almost certainly understates the total amount of analyst coverage.

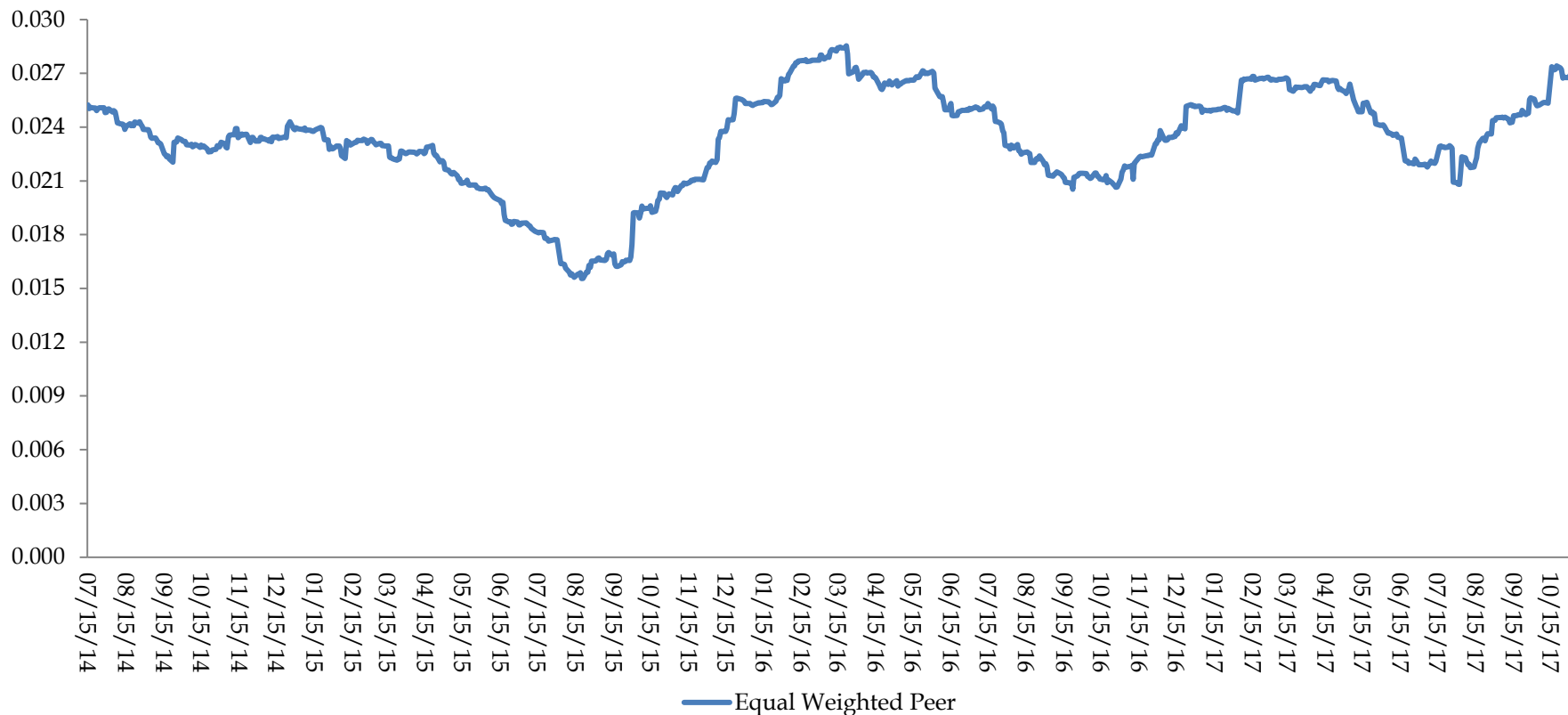
Exhibit 5

Coefficients from Rolling Event Study Regression for Lannett Common Stock 7/15/2014 - 10/31/2017



The results are based on a rolling regression of the previous 120 trading days. The regression models control for a broad market index (S&P 500 Total Return Index) and a Peer Index. The Peer Index is an equal-weighted index using the returns of the companies that were members of the Dow Jones US Pharmaceutical Index during the Class Period. The returns of the Peer Index are net of the S&P 500 Total Return Index. Earnings announcements, pre-announcements, the alleged corrective disclosure dates, and eight outlier dates have been removed from estimation (i.e., 7/16/2014, the reception of interrogatories and subpoena from the Connecticut Attorney General; 8/19/2014, analyst downgrade from Craig-Hallum on concerns over digoxin; 9/3/2015, the announced merger between Lannett and Kremers Urban Pharmaceuticals, Inc.; 12/9/2015, Lannett reassures investors over lost customers; 7/11/2016, Lannett announces US FDA approval and launch of Proxetine Extended Release Tablets; 10/17/2016, US FDA withdrawal of its approval of a generic ADHD drug; 4/10/2017, the beginning of talks of the acquisition of Akorn, a competing generic firm, by Fresenius; and 10/2/2017, the reception of two approvals from the US FDA).

Exhibit 6
Standard Deviation of the Errors for Rolling Event Study
Regression for Lannett Common Stock
7/15/2014 - 10/31/2017



The results are based on a rolling regression of the previous 120 trading days. The regression models control for a broad market index (S&P 500 Total Return Index) and a Peer Index. The Peer Index is an equal-weighted index using the returns of the companies that were members of the Dow Jones US Pharmaceutical Index during the Class Period. The returns of the Peer Index are net of the S&P 500 Total Return Index. Earnings announcements, pre-announcements, the alleged corrective disclosure dates, and eight outlier dates have been removed from estimation (i.e., 7/16/2014, the reception of interrogatories and subpoena from the Connecticut Attorney General; 8/19/2014, analyst downgrade from Craig-Hallum on concerns over digoxin; 9/3/2015, the announced merger between Lannett and Kremers Urban Pharmaceuticals, Inc.; 12/9/2015, Lannett reassures investors over lost customers; 7/11/2016, Lannett announces US FDA approval and launch of Proxetine Extended Release Tablets; 10/17/2016, US FDA withdrawal of its approval of a generic ADHD drug; 4/10/2017, the beginning of talks of the acquisition of Akorn, a competing generic firm, by Fresenius; and 10/2/2017, the reception of two approvals from the US FDA).

Exhibit 7
Event Study Analysis of Lannett Earnings Announcements and Preannouncements

| # | Date | Time | Market Date | Event | Headline | Closing Price | Raw Return | Rolling Regression Model (120-day window) | | | |
|---|------------|---------|-------------|--------------------------|---|---------------|------------|--|------------------------|--------|-----------|
| | | | | | | | | Abnormal Return | Abnormal Dollar Change | t-Stat | Sig Level |
| 1 | 8/18/2014 | 7:27 AM | 8/18/2014 | Q4 2014 Pre-Announcement | Lannett Expects Fiscal 2014 Financial Results for Far Exceed Prior Year <i>Source - Business Wire</i> | \$40.40 | 6.60% | 4.21% | \$1.60 | 1.74 | * |
| 2 | 8/27/2014 | 4:04 PM | 8/28/2014 | Q4 2014 Earnings | Lannett Achieves Stellar Financial Results for Fiscal 2014 <i>Source - Business Wire</i> | \$38.81 | -1.30% | -0.30% | -\$0.12 | -0.12 | |
| 3 | 10/23/2014 | 7:54 AM | 10/23/2014 | Q1 2015 Pre-Announcement | Lannett Announces Preliminary Fiscal 2015 First Quarter Net Sales of Approximately \$93 Million, EPS between \$0.91 and \$0.94 <i>Source - Business Wire</i> | \$49.30 | 10.24% | 7.13% | \$3.19 | 3.15 | *** |
| 4 | 11/3/2014 | 4:05 PM | 11/4/2014 | Q1 2015 Earnings | Lannett Reports Net Sales of \$93 Million, EPS of \$0.94 for Fiscal 2015 First Quarter <i>Source - Business Wire</i> | \$56.25 | -2.21% | -2.53% | -\$1.46 | -1.11 | |
| 5 | 1/26/2015 | 7:54 AM | 1/26/2015 | Q2 2015 Pre-Announcement | Lannett Announces Preliminary Fiscal 2015 Second Quarter Net Sales of Approximately \$115 Million, EPS between \$1.18 and \$1.21 <i>Source - Business Wire</i> | \$48.93 | 7.11% | 5.61% | \$2.56 | 2.41 | ** |
| 6 | 2/4/2015 | 4:04 PM | 2/5/2015 | Q2 2015 Earnings | Lannett Reports Fiscal 2015 Second Quarter Net Sales of \$115 Million, EPS of \$1.21 <i>Source - Business Wire</i> | \$52.61 | 7.92% | 0.13% | \$0.07 | 0.06 | |
| 7 | 5/6/2015 | 4:16 PM | 5/7/2015 | Q3 2015 Earnings | Lannett Reports Strong Fiscal 2015 Third-quarter Results <i>Source - PR Newswire</i> | \$53.04 | -12.07% | -13.15% | -\$7.93 | -6.15 | *** |

Exhibit 7
Event Study Analysis of Lannett Earnings Announcements and Preannouncements

| # | Date | Time | Market Date | Event | Headline | Closing Price | Raw Return | Rolling Regression Model (120-day window) | | | |
|----|------------|---------|-------------|--------------------------|---|---------------|------------|--|------------------------|--------|-----------|
| | | | | | | | | Abnormal Return | Abnormal Dollar Change | t-Stat | Sig Level |
| 8 | 8/25/2015 | 4:04 PM | 8/26/2015 | Q4 2015 Earnings | Lannett Reports Strong Fiscal 2015 Financial Results <i>Source - PR Newswire</i> | \$50.09 | 7.37% | 1.12% | \$0.52 | 0.69 | |
| 9 | 10/28/2015 | 5:50 PM | 10/29/2015 | Q1 2016 Pre-Announcement | Lannett Announces Preliminary Fiscal 2016 First Quarter Financial Results <i>Source - PR Newswire</i> | \$45.81 | -1.40% | -1.49% | -\$0.69 | -0.74 | |
| 10 | 11/4/2015 | 4:15 PM | 11/5/2015 | Q1 2016 Earnings | Lannett Reports Solid Fiscal 2016 First Quarter Results <i>Source - PR Newswire</i> | \$38.62 | -16.33% | -14.91% | -\$6.88 | -7.24 | *** |
| 11 | 1/26/2016 | 4:15 PM | 1/27/2016 | Q2 2016 Pre-Announcement | Lannett Announces Preliminary Fiscal 2016 Second Quarter Financial Results, Provides Full-Year Guidance, To Host Conference Call Today <i>Source - PR Newswire</i> | \$27.52 | -21.12% | -17.77% | -\$6.20 | -6.92 | *** |
| 12 | 2/3/2016 | 4:15 PM | 2/4/2016 | Q2 2016 Earnings | Lannett Reports Fiscal 2016 Second Quarter Results <i>Source - PR Newswire</i> | \$26.73 | 9.86% | 9.13% | \$2.22 | 3.39 | *** |
| 13 | 3/23/2016 | 4:15 PM | 3/24/2016 | Q3 2016 Pre-Announcement | Lannett Revises Fiscal 2016 Full Year Guidance <i>Source - PR Newswire</i> | \$18.31 | -10.07% | -9.76% | -\$1.99 | -3.62 | *** |
| 14 | 5/3/2016 | 4:15 PM | 5/4/2016 | Q3 2016 Earnings | Lannett Reports Solid Fiscal 2016 Third Quarter Results <i>Source - PRNewswire</i> | \$19.77 | 7.91% | 11.27% | \$2.07 | 4.27 | *** |
| 15 | 8/23/2016 | 4:15 PM | 8/24/2016 | Q4 2016 Earnings | Lannett Announces Record Net Sales For Fiscal 2016 Fourth-Quarter And Full-Year <i>Source - PR Newswire</i> | \$36.75 | 13.71% | 18.52% | \$5.98 | 8.31 | *** |
| 16 | 11/3/2016 | 4:15 PM | 11/4/2016 | Q1 2017 Earnings | Lannett Reports Fiscal 2017 First-Quarter Financial Results <i>Source - PR Newswire</i> | \$18.05 | 4.64% | 1.67% | \$0.29 | 0.77 | |

Exhibit 7
Event Study Analysis of Lannett Earnings Announcements and Preannouncements

| # | Date | Time | Market Date | Event | Headline | Closing Price | Raw Return | Rolling Regression Model (120-day window) | | | Sig Level |
|----|-----------|---------|-------------|--------------------------|--|---------------|------------|--|------------------------|--------|-----------|
| | | | | | | | | Abnormal Return | Abnormal Dollar Change | t-Stat | |
| 17 | 2/1/2017 | 4:15 PM | 2/2/2017 | Q2 2017 Earnings | Lannett Reports Fiscal 2017 Second-Quarter Financial Results <i>Source - PR Newswire</i> | \$21.70 | 4.83% | 3.00% | \$0.62 | 1.21 | |
| 18 | 5/2/2017 | 4:15 PM | 5/3/2017 | Q3 2017 Earnings | Lannett Reports Fiscal 2017 Third-Quarter Financial Results <i>Source - PR Newswire</i> | \$22.10 | -18.60% | -15.39% | -\$4.18 | -5.91 | *** |
| 19 | 8/8/2017 | 6:54 AM | 8/8/2017 | Q4 2017 Pre-Announcement | Lannett Announces Preliminary Fiscal 2017 Fourth-Quarter and Full-Year Financial Results, Comments on Fiscal 2018 Outlook <i>Source - PR Newswire</i> | \$16.60 | -2.92% | -0.69% | -\$0.12 | -0.32 | |
| 20 | 8/23/2017 | 4:24 PM | 8/24/2017 | Q4 2017 Earnings | Lannett Reports Fiscal 2017 Fourth-Quarter And Full-Year Financial Results, Provides Guidance For Fiscal 2018 <i>Source - PR Newswire</i> | \$15.80 | -1.86% | -2.84% | -\$0.46 | -1.21 | |

Sources: S&P Capital IQ and Factiva.

Notes:

(1) The results are based on a rolling regression of the previous 120 trading days. The regression model controls for a broad market index (S&P 500 Total Return Index) and a Peer Index. The Peer Index is an equal-weighted index using the returns of the companies the companies that were members of the Dow Jones US Pharmaceutical Index during the Class Period. The returns of the Peer Index are net of the S&P 500 Total Return Index. Earnings announcements, pre-announcements, the alleged corrective disclosure dates, and eight outlier dates have been removed from estimation (i.e., 7/16/2014, the reception of interrogatories and subpoena from the Connecticut Attorney General; 8/19/2014, analyst downgrade from Craig-Hallum on concerns over digoxin; 9/3/2015, the announced merger between Lannett and Kremers Urban Pharmaceuticals, Inc.; 12/9/2015, Lannett reassures investors over lost customers; 7/11/2016, Lannett announces US FDA approval and launch of Proxetine Extended Release Tablets; 10/17/2016, US FDA withdrawal of its approval of a generic ADHD drug; 4/10/2017, the beginning of talks of the acquisition of Akorn, a competing generic firm, by Fresenius; and 10/2/2017, the reception of two approvals from the US FDA).

(2) "****" Denotes statistical significance at the 99% confidence level or greater. "***" Denotes statistical significance at the 95% confidence level or greater. "**" Denotes statistical significance at the 90% confidence level or greater.

Exhibit 8
Comparison of Statistical Significance and Abnormal Returns
for Lannett Earnings Announcements
vs. Days with No News during the Class Period

| Statistic | Earnings Announcements | Days with No News, Analyst Reports, or SEC Filings |
|---|------------------------|--|
| N ⁽¹⁾ | 20 | 216 |
| Significant Days at 95% Confidence Level | 10 | 10 |
| % Significant Days at 95% Confidence Level ⁽²⁾ | 50.00% | 4.63% |
| Average Absolute Abnormal Return ⁽³⁾ | 7.03% | 1.76% |
| Average Volume (Millions) ⁽⁴⁾ | 2.7 | 0.8 |

Notes:

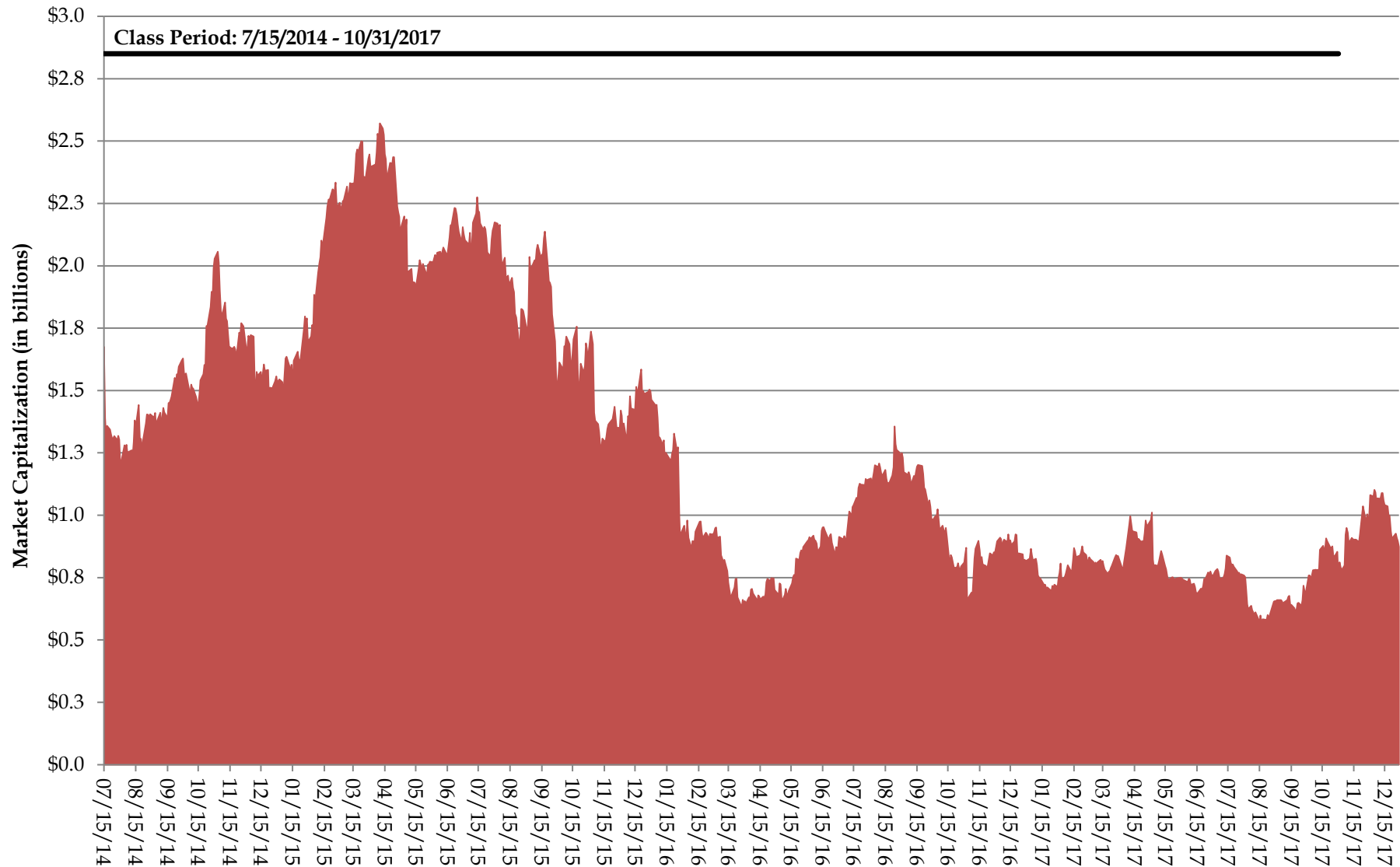
(1) Results are based on the Class Period. For the purposes of this analysis, I selected the 216 days with no news. Days with no news were days that had zero news articles via the Factiva database, and no analyst reports or SEC filings were issued.

(2) 50.00% rate of statistical significance is statistically significantly different than 4.63% at the 99% confidence level using a Chi-Square test.

(3) 7.03% absolute return is statistically significantly different than 1.76% based on a t-test for difference of means at the 99% confidence level.

(4) The difference between 2.7 million and 0.8 million is statistically significant at the 99% confidence level.

Exhibit 9
Lannett Common Stock Market Capitalization
7/15/2014 -12/29/2017



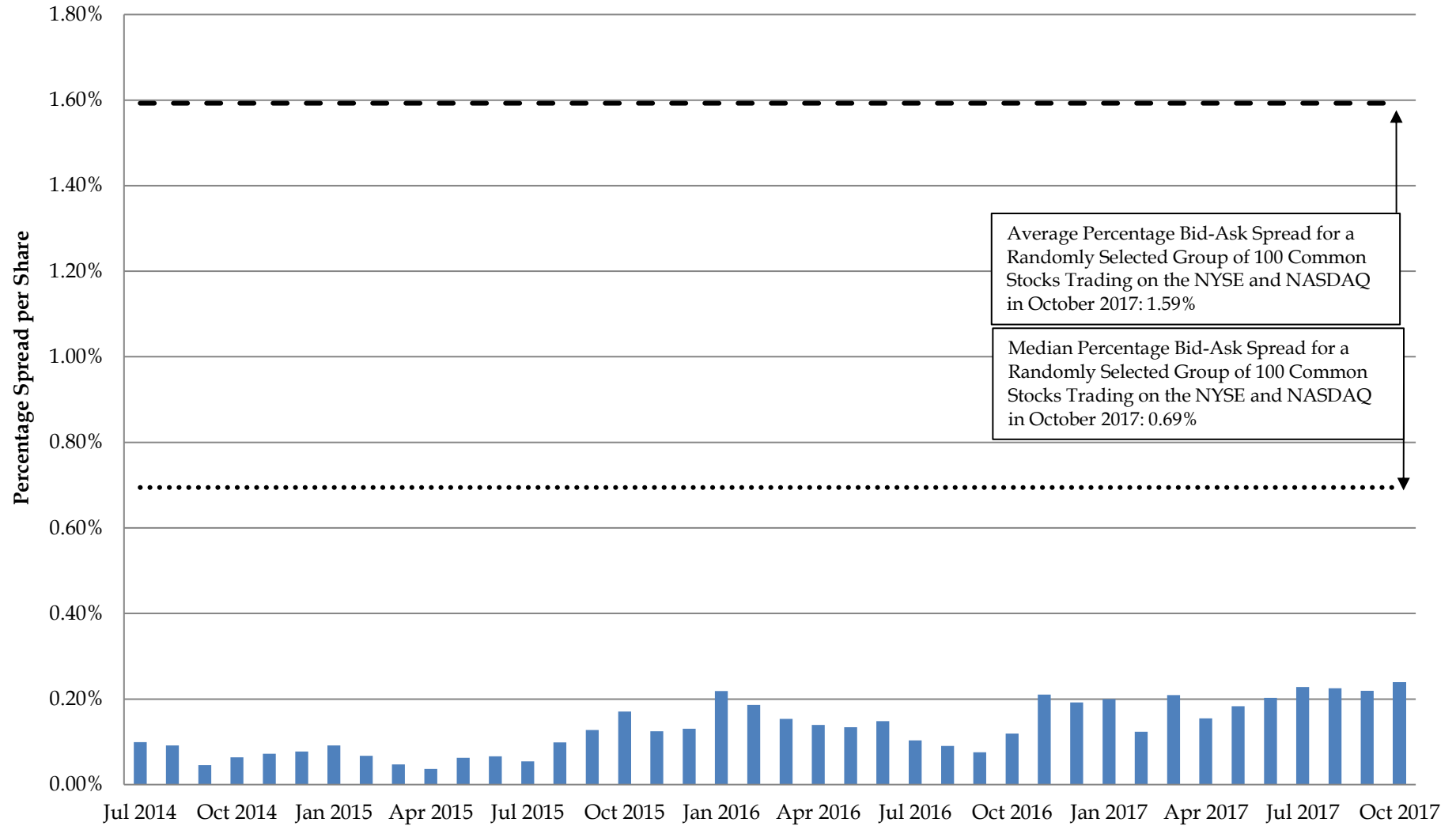
Sources: Complain, S&P Capital IQ, and Lannett Company SEC filings throughout the Class Period.

Exhibit 10
Lannett Common Stock
Market Capitalization Rankings

| Last trading day of quarter ending on: | Market Capitalization (billions) | Percentile Rank on NYSE & NASDAQ |
|---|---|---|
| 9/30/2014 | \$1.63 | 65% |
| 12/31/2014 | \$1.53 | 63% |
| 3/31/2015 | \$2.45 | 70% |
| 6/30/2015 | \$2.16 | 68% |
| 9/30/2015 | \$1.51 | 65% |
| 12/31/2015 | \$1.46 | 64% |
| 3/31/2016 | \$0.66 | 51% |
| 6/30/2016 | \$0.87 | 55% |
| 9/30/2016 | \$0.98 | 56% |
| 12/31/2016 | \$0.82 | 51% |
| 3/31/2017 | \$0.82 | 51% |
| 6/30/2017 | \$0.75 | 49% |
| 9/30/2017 | \$0.69 | 46% |

Source: Bloomberg, S&P Capital IQ, and Lannett Company SEC filings throughout the Class Period.

Exhibit 11
Lannett Common Stock Average Monthly Bid-Ask Percentage Spread
7/15/2014 - 10/31/2017



Source: Thomson Reuters Eikon and TICK Data.
 Note: July 2014 data are limited to the Class Period.

Exhibit 12
Lannett Common Stock Shares Outstanding, Insider Holdings, and Institutional Holdings

| Date | Shares Outstanding (in 000s) | Total Institutions Owning Stock | Insider Holdings (in 000s) | Short Interest (in 000s) | Public Float (in 000s) | Insider Holdings % of Shares Outstanding | Total Institutional Holdings (in 000s) | Institutional Holdings % of Shares Outstanding | Institutional Holdings % of Public Float |
|--|---------------------------------|------------------------------------|-------------------------------|-----------------------------|---------------------------|--|--|---|---|
| [1] | [2] | [3] | [4] | [5] | [6] = [2] + [5] - [4] | [7] = [4] / [2] | [8] | [9] = [8] / [2] | [10] = [8] / [6] |
| 9/30/2014 | 35,654 | 208 | 9,603 | 2,572 | 28,624 | 26.93% | 19,220 | 54% | 67% |
| 12/31/2014 | 35,700 | 254 | 9,509 | 5,169 | 31,361 | 26.64% | 21,175 | 59% | 68% |
| 3/31/2015 | 36,135 | 294 | 9,235 | 5,900 | 32,800 | 25.56% | 23,538 | 65% | 72% |
| 6/30/2015 | 36,265 | 306 | 10,924 | 6,617 | 31,957 | 30.12% | 24,747 | 68% | 77% |
| 9/30/2015 | 36,362 | 326 | 11,205 | 10,034 | 35,191 | 30.81% | 29,686 | 82% | 84% |
| 12/31/2015 | 36,457 | 285 | 11,195 | 10,105 | 35,367 | 30.71% | 28,487 | 78% | 81% |
| 3/31/2016 | 36,569 | 237 | 11,250 | 7,713 | 33,032 | 30.76% | 31,405 | 86% | 95% |
| 6/30/2016 | 36,604 | 227 | 11,150 | 9,819 | 35,273 | 30.46% | 32,180 | 88% | 91% |
| 9/30/2016 | 36,802 | 238 | 11,239 | 6,797 | 32,360 | 30.54% | 33,041 | 90% | 102% |
| 12/31/2016 | 37,002 | 208 | 10,974 | 10,143 | 36,171 | 29.66% | 36,228 | 98% | 100% |
| 3/31/2017 | 36,877 | 209 | 10,989 | 14,296 | 40,184 | 29.80% | 40,622 | 110% | 101% |
| 6/30/2017 | 36,919 | 195 | 10,984 | 14,715 | 40,650 | 29.75% | 37,737 | 102% | 93% |
| 9/30/2017 | 37,284 | 194 | 7,718 | 16,150 | 45,716 | 20.70% | 39,360 | 106% | 86% |
| 12/31/2017 | 37,667 | 229 | 7,564 | 15,183 | 45,286 | 20.08% | 40,995 | 109% | 91% |
| Total Institutions over Class Period: | | 633 | | | | Class Period Average: | 28.04% | 85.33% | 86.28% |

Sources: S&P Capital IQ and SEC filings.

(1) S&P Capital IQ updates short interest every two weeks while updates to institutional holdings via 13-F filings are only available every quarter; therefore, occasionally the time difference in data updates may cause institutional holdings to appear to exceed shares outstanding and the public float.

(2) Companies controlled by the Farber family are counted as corporate insiders for the purposes of this analysis.

Exhibit 13
Lannett Common Stock
Test for Autocorrelation During the Class Period

| Quarter Ending | Coefficient on Previous Day's Abnormal Return ⁽¹⁾ | t-Statistic | Sig Level ⁽³⁾ |
|-----------------------------------|---|-------------|--------------------------|
| 9/30/2014 | -0.05 | -0.39 | |
| 12/31/2014 | 0.02 | 0.16 | |
| 3/31/2015 | -0.14 | -1.12 | |
| 6/30/2015 | -0.26 | -2.08 | ** |
| 9/30/2015 | 0.14 | 1.01 | |
| 12/31/2015 | -0.01 | -0.12 | |
| 3/31/2016 | 0.06 | 0.43 | |
| 6/30/2016 | -0.03 | -0.23 | |
| 9/30/2016 | 0.00 | 0.04 | |
| 12/31/2016 | -0.02 | -0.15 | |
| 3/31/2017 | -0.14 | -1.07 | |
| 6/30/2017 | 0.18 | 1.42 | |
| 9/30/2017 | 0.01 | 0.10 | |
| 12/31/2017 | -0.19 | -0.64 | |
| Class Period⁽²⁾ | 0.01 | 0.18 | |

Source: S&P Capital IQ.

Notes:

(1) For each quarter I perform a regression with the abnormal return from the event study as the dependent variable and the previous day's abnormal return as the independent variable. Earnings announcements, pre-announcements, the alleged corrective disclosure dates, and eight outlier dates have been removed from estimation (i.e., 7/16/2014, the reception of interrogatories and subpoena from the Connecticut Attorney General; 8/19/2014, analyst downgrade from Craig-Hallum on concerns over digoxin; 9/3/2015, the announced merger between Lannett and Kremers Urban Pharmaceuticals, Inc.; 12/9/2015, Lannett reassures investors over lost customers; 7/11/2016, Lannett announces US FDA approval and launch of Proxetine Extended Release Tablets; 10/17/2016, US FDA withdrawal of its approval of a generic ADHD drug; 4/10/2017, the beginning of talks of the acquisition of Akorn, a competing generic firm, by Fresenius; and 10/2/2017, the reception of two approvals from the US FDA).

(2) Class Periods runs from July 15, 2014 to October 31, 2017.

(3) "***" Denotes statistical significance at the 99% confidence level or greater. "**" Denotes statistical significance at the 95% confidence level or greater. "*" Denotes statistical significance at the 90% confidence level or greater.

Appendix A

Documents Considered

Court Documents

- Third Amended Consolidated Securities Class Action Complaint filed September 21, 2018, in *John Utesch, Individually and on Behalf of All Others Similarly Situated, Plaintiff(s), v. Lannett Company, Inc., Arthur P. Bedrosian, and Martin P. Galvan, Defendants*, Civil Action No. 2:16-cv-05932-WB.

Court Decisions and Securities Law

- *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988).
- Bromberg & Lowenfels, 4 *Securities Fraud and Commodities Fraud*, § 8.6. (Aug. 1988).
- *Cammer, et al., v. Bruce M. Bloom, et al.*, 711 F. Supp. 1264 (D.N.J. 1989).
- *Halliburton Co., et al., v. Erica P. John Fund, Inc.*, 134 S. Ct. 2398 (2014).
- *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001).
- Private Securities Litigation Reform Act of 1995, dated December 22, 1995.

SEC Filings

- Lannett Company, Inc. SEC Form 10-K filings submitted throughout the Class Period.
- Lannett Company, Inc. SEC Form 10-Q filings submitted throughout the Class Period.
- Lannett Company, Inc. SEC Form 8-K filings submitted during the Class Period.
- Lannett Company, Inc. SEC Form S-3ASR filed on May 12, 2017, *see* <https://www.sec.gov/Archives/edgar/data/57725/000104746917003383/0001047469-17-003383-index.htm>.
- Lannett Company, Inc. Def 14-A Proxy Statements for the fiscal years in the Class Period.

Security Data

- Historical data for Lannett Company, Inc. Common Stock, companies comprising the Peer Index, and the S&P 500 Total Return Index were obtained from S&P Capital IQ.
- Trade and quote data for Lannett Company, Inc. Common Stock during the Class Period and one hundred randomly selected companies trading on the New York Stock Exchange and NASDAQ for October 2017 were obtained from Tick Data, *see* <https://tickapi.tickdata.com/>. Companies trading on the New York Stock Exchange and NASDAQ for October 2017 were identified using Thomson Reuters Eikon.
- Institutional and insider holdings data was obtained from S&P Capital IQ.
- Lannett Company, Inc. Common Stock options data was obtained from iVolatility.
- Lannett Company, Inc. Common Stock market makers data was obtained from Bloomberg, using the RANK function.

- Lannett Company, Inc. Common Stock market capitalization percentiles were obtained from Bloomberg.
- Turnover velocity data for NYSE and NASDAQ were obtained from the World Federation of Exchanges, *see* <https://www.world-exchanges.org/home/index.php/statistics/monthly-reports>.

Lannett Company, Inc. News

- Lannett Company, Inc. news headlines and select articles downloaded from Factiva for the Class Period. The Factiva search for news over the Class Period resulted in 1,401 unique articles as a result of a search for “All Sources” with the company field “Lannett Company, Inc” or the keyword field “Lannett Company.” Articles flagged under the keyword fields “52-week highs and lows”, “Diary-Non,” and “Diary” were excluded from the analysis. Duplicate articles have been removed by a proprietary function accessible in Factiva’s search builder.
- Lannett Company, Inc. earnings conference call and investor call transcripts during the Class Period, including but not limited to:
 - “FY 2014 Earnings Call Transcripts,” *S&P Capital IQ*, August 27, 2014.
 - “FQ2 2016 Earnings Call Transcripts,” *S&P Capital IQ*, February 3, 2016.
- Lannett Company, Inc. earnings and guidance update press releases during the Class Period.

Lannett Company, Inc. Analyst Reports

- Lannett Company, Inc. analyst reports supplied by Investext via Thomson Reuters for the period of July 15, 2014 – October 31, 2017, including but not limited to:
 - “F3Q15 Results: Oops, Couldn’t Do It Again,” *Oppenheimer*, May 7, 2015.
 - “Eyes Shifting To Low-Single Digit Growth In FY16, But Prospects For FDA Approvals And/Or Acquisitions Keep Us Intrigued. Reiterate Buy Rating, Lowering Price Target To \$62.,” *Craig-Hallum Capital Group LLC*, May 7, 2015.
- Seeking Alpha articles or reports for Lannett Company, Inc. published during the Class Period under the site’s “Analysis” section.

Academic Articles

- Aharony, J., and Swary, I., “Quarterly Dividend and Earnings Announcements and Stockholders’ Returns: An Empirical Analysis,” *The Journal of Finance*, Vol. 35, No. 1, March 1980.
- Amihud, Y., et al., *Liquidity and Asset Prices*, 1 FOUND. & TRENDS FIN. 269 (2005).
- Avramov, D., et al., *Liquidity and Autocorrelations in Individual Stock Returns*, 61 J. FIN. (2006).
- Barber, B., et al., *The Fraud-on-the-Market Theory and the Indicators of Common Stocks’ Efficiency*, 19 J. CORP. L. 285 (1994).

- Beaver, W., “The Information Content of Annual Earnings Announcements,” *Empirical Research in Accounting: Selected Studies*, 1968, supplement to the *Journal of Accounting Research*, Vol. 6, 1968.
- Binder, J., *The Event Study Methodology Since 1969*, 11 REV. QUANTITATIVE FIN. & ACCT. (1998).
- Braun, P., et al., *Good News, Bad News Volatility, and Betas*, 50 J. FIN. 1575 (1995).
- Fabozzi, F., Modigliani, F., Jones, F., *Foundations of Financial Markets and Institutions*, Prentice Hall, Fourth Edition, 2010.
- Fama, E., *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970).
- Greene, W., *Econometric Analysis*, Prentice Hall, Sixth Edition, 2008.
- Gujarati, D., *Basic Econometrics*, Third Edition, McGraw Hill, 1995.
- Huang, R., and Stoll, H., *Dealer versus auction markets: A paired comparison of execution costs on NASDAQ and the NYSE*, 41 J. FIN. ECON. 313 (1996).
- Jensen, M., *Some Anomalous Evidence Regarding Market Efficiency*, 6 J. FIN. ECON. 95 (1978).
- Kumar, R., et al., *The Impact of Options Trading on the Market Quality of the Underlying Security: An Empirical Analysis*, 53 J. FIN. 717 (1998).
- MacKinlay, A., *Event Studies in Economics and Finance*, 35 J. ECON. LITERATURE (1997).
- May, R., “The Influence of Quarterly Earnings Announcements on Investor Decisions as Reflected in Common Stock Price Changes,” *Empirical Research in Accounting: Selected Studies*, 1971, supplement to the *Journal of Accounting Research*, Vol. 9, 1971.
- The National Academies Press, *Reference Manual on Scientific Evidence*, Third Edition, 2011.
- Ross, S., *Options and Efficiency*, 90 Q. J. ECON. 75 (1976).
- Sharpe, W., Alexander, G., and Bailey, J., *Investments*, Prentice Hall, Fifth Edition, 1995.
- Tabak, D., and Dunbar, F., “Materiality and Magnitude: Event Studies in the Courtroom,” Ch. 19, *Litigation Services Handbook, The Role of the Financial Expert*, Third Edition, 2001.
- Thomas, R., and Cotter, J., *Measuring Securities Market Efficiency in the Regulatory Setting*, 63 LAW & CONTEMP. PROBS. 105 (2000).

Other

- <http://www.nasdaq.com/about/MarketMechanics.stm>.
- http://www.nasdaq.com/includes/Anatomy_of_a_Trade_FactSheet.pdf.
- <http://www.nasdaqomx.com/transactions/trading/equities>.
- <https://www.nasdaqtrader.com/Trader.aspx?id=TradingUSEquities>.
- <https://www.nyse.com/market-model>.

- <http://www.rss-specifications.com>.
- <http://www.rss-specifications.com/what-is-rss.htm>.
- <http://www.sec.gov/answers/mktmaker.htm>.
- <http://www.sec.gov/about/forms/forms-3.pdf>.
- <http://wallstreet.cch.com/LCM/Sections>.

APPENDIX B

CHAD W. COFFMAN, MPP, CFA

Global Economics Group, LLC
140 South Dearborn Street, Suite 1000
Chicago, IL 60603
Office: (312) 470-6500
Mobile: (815) 382-0092
Email: ccoffman@globaleconomicsgroup.com

EMPLOYMENT:

Global Economics Group, LLC

President (2008 - Current)

Global Economics Group specializes in the application of economics, finance, statistics, and valuation principles to questions that arise in a variety of contexts, including litigation and policy matters throughout the world. With offices in Chicago, Boston, and New York, Principals of Global Economics Group have extensive experience in high-profile securities, antitrust, labor, and intellectual property matters.

Market Platform Dynamics, LLC

Chief Financial Officer & Chief Operating Officer (2010 – Current)

Market Platform Dynamics is a management consulting firm that specializes in assisting platform-based companies profit from industry disruption caused by the introduction of new technologies, new business models and/or new competitive threats. MPD's experts include economists, econometricians, product development specialists, strategic marketers and recognized thought leaders who apply cutting-edge research to the practical problems of building and running a profitable business.

Chicago Partners, LLC

Principal (2007 – 2008)
Vice President (2003 – 2007)
Director (2000 – 2003)
Senior Associate (1999 – 2000)
Associate (1997 – 1999)
Research Analyst (1995 – 1997)

EDUCATION:

CFA Chartered Financial Analyst, 2003

M.P.P. University of Chicago, 1997

Masters of Public Policy, with a focus in economics including coursework in Finance, Labor Economics, Econometrics, and Regulation

B.A. Knox College, 1995
Economics, Magna Cum Laude
Graduated with College Honors for Paper entitled “Increasing Efficiency in Water Supply Pricing: Using Galesburg, Illinois as a Case Study”
Dean's List Every Term
Phi Beta Kappa

PROFESSIONAL EXPERIENCE:

Securities, Valuation, and Market Manipulation Cases:

- Testifying Expert in numerous high-profile class action securities matters including, but not limited to:
 - In Re: Bank of America Corp. Securities, Derivative, and Employee Retirement Income Security Act (ERISA) Litigation. Parties settled for \$2.4 billion in which I served as Plaintiffs’ damages and loss causation expert.
 - In Re: Schering-Plough Corporation/ Enhance Securities Litigation. Parties settled for \$473 million in which I served as Plaintiffs’ damages and loss causation expert.
 - In Re: REFCO Inc. Securities Litigation. Parties settled for \$367 million in which I served as Plaintiffs’ damages and loss causation expert.
 - In Re: Computer Sciences Corporation Securities Litigation. Parties settled for \$98 million in which I served as Plaintiffs’ damages and loss causation expert.
 - Full list of testimonial experience is provided below
- Engaged several dozen times as a neutral expert by prominent mediators to evaluate economic analyses of other experts.
- Expert consultant for the American Stock Exchange (AMEX) where I evaluated issues related to multiple listing of options. Performed econometric analysis of various measures of option spread using tens of millions of trades.
- Performed detailed audit of CDO valuation models employed by a banking institution to satisfy regulators – non-litigation matter.
- Played significant role in highly-publicized internal accounting investigations of two Fortune 500 companies. One led to restatement of previously issued financial statements and both involved SEC investigations.

Testimony:

- Testifying expert in the matter of Kuo, Steven Wu v. Xceedium Inc, Supreme Court of New York, County of New York, Index No. 06-100836. Filed report re: the fair value of Mr. Kuo’s shares. Case settled at trial.

- Testifying expert in the matter of Pallas, Dennis H. v. BPRS/Chestnut Venture Limited Partnership and Gerald Nudo, Circuit Court of Cook County, Illinois, County Department, Chancery Division. Filed report re: fair value of Pallas shares. Report: July 9, 2008. Deposition August 6, 2008. Court Testimony February 11, 2009.
- Testifying expert in Washington Mutual Securities Litigation, United States District Court for the Western District of Washington at Seattle, No. 2:08-md-1919 MJP, Lead Case No. C08-387 MJP. Filed declaration August 5, 2008 re: Plaintiffs' loss causation theory. Filed expert report April 30, 2010. Filed expert rebuttal report August 4, 2010. Filed declaration re: Plan of Allocation September 25, 2011.
- Testifying expert in DVI Securities Litigation, Case No. 2:03-CV-05336-LDD, United States District Court for the Eastern District of Pennsylvania. Filed expert report October 1, 2008 re: damages. Filed expert rebuttal report December 17, 2008. Deposition January 27, 2009. Filed expert rebuttal report June 24, 2013.
- Testifying expert in Syrtech Corporation v. Lifetime Brands, Inc. and Syrtech Acquisition Corporation, Supreme Court of the State of New York, Index No. 603568/2007. Filed expert report October 31, 2008.
- Expert declaration in Jacksonville Police and Fire Pension Fund, et al. v. AIG, Inc., et al., No. 08-CV-4772-LTS; James Connolly, et al. v. AIG, Inc., et al., No. 08-CV-5072-LTS; Maine Public Employees Retirement System, et al. v. AIG, Inc., et al., No. 08-CV-5464-LTS; and Ontario Teachers' Pension Plan Board, et al. v. AIG, Inc., et al., No. 08-CV-5560-LTS, United States District Court for the Southern District of New York. Filed declaration February 18, 2009.
- Expert declaration in Connetics Securities Litigation, Case No. C 07-02940 SI, United States District Court for the Northern District of California, San Francisco Division. Filed expert report March 16, 2009. Filed declaration re: Plan of Allocation September 9, 2009.
- Testifying expert in Boston Scientific Securities Litigation, Master File No. 1:05-cv-11934 (DPW), United States District Court District of Massachusetts. Filed expert report August 6, 2009. Deposition October 6, 2009.
- Expert declaration in Louisiana Sheriffs' Pension and Relief Fund, et al. v. Merrill Lynch & Co, Inc., et al., Case Number 08-cv-09063, United States District Court for the Southern District of New York. Filed declaration re: Plan of Allocation October, 2009.
- Testifying expert in Henry J. Wojtunik v. Joseph P. Kealy, John F. Kealy, Jerry A. Kleven, Richard J. Seminoff, John P. Stephen, C. James Jensen, John P. Morbeck, Terry W. Beiriger, and Anthony T. Baumann. Filed expert report January 25, 2010.
- Testifying expert in REFCO Inc. Securities Litigation, Case No. 05 Civ. 8626 (GEL), United States District Court for the Southern District of New York. Filed expert report February 2, 2010. Filed expert rebuttal report March 12, 2010. Deposition March 26, 2010.

- Expert declaration in New Century Securities Litigation, Case No. 07-cv-00931-DDP, United States District Court Central District of California. Filed declaration March 11, 2010.
- Testifying expert in Louisiana Municipal Police Employees' Retirement System, et al. v. Tilman J. Fertitta, Steven L. Scheinthal, Kenneth Brimmer, Michael S. Chadwick, Michael Richmond, Joe Max Taylor, Fertitta Holdings, Inc., Fertitta Acquisition Co., Richard Liem, Fertitta Group, Inc. and Fertitta Merger Co, C.A. No. 4339-VCL, Court of Chancery of the State of Delaware. Filed expert report April 23, 2010.
- Testifying expert in Edward E. Graham and William C. Nordlund, individually and d/b/a Silver King Capital Management v. Eton Park Capital Management, L.P., Eton Park Associates, L.P. and Eton Park Fund, L.P. Case No. 1:07-CV-8375-GBD, Circuit Court of Shelby County, Alabama. Filed expert rebuttal report July 8, 2010. Deposition September 1, 2010. Filed supplemental expert rebuttal report August 22, 2011.
- Testifying expert in Moody's Corporation Securities Litigation. Case No. 1:07-CV-8375-GBD), United States District Court for the Southern District of New York. Filed expert rebuttal report August 23, 2010. Deposition October 7, 2010. Filed rebuttal reply report November 5, 2010. Filed expert report May 25, 2012.
- Testifying expert in Minneapolis Firefighters' Relief Association v. Medtronic, Inc., et al. Civil No. 08-6324 (PAM/AJB), United States District Court, District of Minnesota. Filed expert report January 14, 2011.
- Testifying expert in Schering-Plough Corporation/ENHANCE Securities Litigation Case No.2:08-cv-00397 (DMC) (JAD), United States District Court, District of New Jersey. Filed declaration February 7, 2011. Filed expert report September 15, 2011. Filed expert rebuttal report October 28, 2011. Filed declaration January 30, 2012. Deposition November 15, 2011 and November 29, 2011.
- Testifying expert in Fannie Mae 2008 Securities Litigation, Master File No. 08 Civ. 7831 (PAC), United States District Court for the Southern District of New York. Filed expert report July 18, 2011.
- Expert declaration in Grady Scott Weston et. al v. RCS Capital Corporation, et. al, Civil Action No. 1:14-CV-10136-GBD, United States District Court for the Southern District of New York. Filed declaration re: aggregate damages August 11, 2017.
- Testifying expert in Bank of America Corp. Securities, Derivative, and Employee Retirement Income Security Act (ERISA) Litigation, Master File No. 09 MDL 2058 (PKC), United States District Court for the Southern District of New York. Filed expert report August 29, 2011. Filed expert rebuttal report September 26, 2011. Filed expert report March 16, 2012. Filed expert rebuttal report April 9, 2012. Filed expert rebuttal report April 29, 2012. Deposition October 14, 2011 and May 24, 2012.

- Testifying expert in Toyota Motor Corporation Securities Litigation, Case No. 10-922 DSF (AJWx), United States District Court, Central District of California. Filed expert report February 17, 2012. Deposition March 28, 2012. Filed expert rebuttal report August 2, 2012. Filed declaration re: Plan of Allocation January 28, 2013.
- Testifying expert in The West Virginia Investment Management Board and the West Virginia Consolidated Public Retirement Board v. The Variable Annuity Life Insurance Company, Civil No. 09-C-2104, Circuit Court of Kanawha County, West Virginia. Filed expert report June 1, 2012. Depositions June 19, 2013 and December 11, 2015.
- Testifying expert in Aracruz Celulose S.A. Securities Litigation, Case No. 08-23317-CIV-LENARD, United States District Court for the Southern District of Florida. Filed expert report July 20, 2012. Deposition September 14, 2012. Filed expert rebuttal report October 29, 2012. Filed declaration re: Plan of Allocation May 20, 2013.
- Testifying expert in In Re Computer Sciences Corporation Securities Litigation, CIV. A. No. 1:11-cv-610-TSE-IDD, United States District Court for the Eastern District of Virginia, Alexandria Division. Filed expert report November 9, 2012. Filed supplemental report February 18, 2013. Filed expert rebuttal report March 25, 2013. Deposition March 27, 2013. Filed declaration re: Plan of Allocation August 7, 2013.
- Testifying expert in In Re Weatherford International Securities Litigation, Case 1:11-cv-01646-LAK, United States District Court for the Southern District of New York. Filed declaration July 1, 2011. Filed expert report April 1, 2013. Deposition April 26, 2013.
- Testifying expert in In Re: Regions Morgan Keegan Closed-End Fund Litigation, Case 2:07-cv-02830-SHM-dkv, United States District Court for the Western District of Tennessee, Western Division. Court testimony April 12, 2013.
- Testifying expert in City of Roseville Employees' Retirement System and Southeastern Pennsylvania Transportation Authority, derivatively on behalf of Oracle Corporation, Plaintiff, v. Lawrence J. Ellison, Jeffrey S. Berg, H. Raymond Bingham, Michael J. Boskin, Safra A. Catz, Bruce R. Chizen, George H. Conrades, Hector Garcia-Molina, Donald L. Lucas, and Naomi O. Seligman, Defendants, and Oracle Corporation, Nominal Defendant, C.A. No. 6900-CS, Court of Chancery of the State of Delaware. Filed expert report May 13, 2013. Filed expert rebuttal report June 21, 2013. Deposition July 17, 2013.
- Testifying expert in In Re BP plc Securities Litigation, No. 4:10-md-02185, Honorable Keith P. Ellison, United States District Court for the Southern District of Texas, Houston Division. Filed expert report June 14, 2013. Deposition July 25, 2013. Filed expert rebuttal report October 7, 2013. Filed declaration re: Plaintiff accounting losses November 17, 2013. Filed expert report January 6, 2014. Deposition January 22, 2014. Filed expert rebuttal report March 12, 2014. Filed expert report March 17, 2014. Hearing testimony April 21, 2014. Deposition June 3, 2014. Filed declaration re: damages June 3, 2014.

- Testifying expert in In Re Celestica Inc. Securities Litigation, Civil Action No. 07-CV-00312-GBD, United States District Court for the Southern District of New York. Filed expert report June 14, 2013. Filed expert rebuttal report September 10, 2013. Deposition September 24, 2013.
- Testifying expert in In Re Dendreon Corporation Class Action Litigation, Master Docket No. C11-01291JLR, United States District Court for the Western District of Washington at Seattle. Filed declaration re: Plan of Allocation June 14, 2013.
- Testifying expert in In Re Hill v. State Street Corporation, Master Docket No. 09-cv12146-GAO, United States District Court for the District of Massachusetts. Filed expert report October 28, 2013.
- Testifying expert in In Re BNP Paribas Mortgage Corporation and BNP Paribas v. Bank of America, N.A., Master Docket No. 09-cv-9783-RWS, United States District Court for the Southern District of New York. Filed expert report November 25, 2013. Filed expert rebuttal report March 17, 2014. Deposition June 26-27, 2014.
- Testifying expert in Stan Better and YRC Investors Group v. YRC Worldwide Inc., William D. Zollars, Michael Smid, Timothy A. Wicks and Stephen L. Bruffet, Civil Action No. 11-2072-KHV, United States District Court for the District of Kansas. Filed declaration re: Plan of Allocation February 5, 2014. Filed expert report May 29, 2015. Filed expert report February 5, 2016. Filed expert rebuttal report March 27, 2016.
- Testifying expert in The Archdiocese of Milwaukee Supporting Fund v. Halliburton Company, et al., Civil Action No. 3:02-CV-1152-M, United States District Court for the Northern District of Texas, Dallas Division. Filed expert rebuttal report October 30, 2014. Deposition November 11, 2014. Hearing testimony December 1, 2014. Filed expert report March 11, 2016. Filed expert rebuttal report May 13, 2016. Deposition June 10, 2016. Hearing testimony re: Plan of Allocation July 31, 2017.
- Testifying expert in In Re HP Securities Litigation, Master File No. 3:12-cv-05980-CRB, United States District Court for the Northern District of California, San Francisco Division. Filed expert report November 4, 2014. Deposition December 3, 2014. Filed expert rebuttal report January 26, 2015.
- Testifying expert in In Re MGM Mirage Securities, No. 2:09-cv-01558-GMN-VCF, United States District Court for the District of Nevada. Filed expert report November 12, 2014. Deposition January 6, 2015. Filed expert rebuttal report April 2, 2015.
- Testifying expert in Adam S. Levy v. Thomas Gutierrez, Richard J. Gaynor, Raja Bal, J. Michal Conaway, Kathleen A. Cote, Ernest L. Godshalk, Matthew E. Massengill, Mary Petrovich, Robert E. Switz, Noel G. Watson, Thomas Wroe, Jr., Morgan Stanley & Co. LLC, Goldman, Sachs & Co., and Canaccord Genuity Inc. and Apple Inc., No. 1:14-cv-00443-JL, United States District Court for the District of New Hampshire. Filed declaration January 7, 2015. Filed expert report September 20, 2018. Deposition December 7, 2018. Filed expert rebuttal report February 22, 2019. Filed expert report June 7, 2019. Deposition September 6, 2019.

- Testifying expert in In Re Nu Skin Enterprises, Inc., Securities Litigation, Master File No. 2:14-cv-00033-DB, United States District Court for the District of Utah, Central Division. Filed expert report June 26, 2015. Deposition August 17, 2015.
- Testifying expert in In Re Intuitive Surgical Securities Litigation, Master File No. 5:13-cv-01920-EJD, United States District Court for the Northern District of California. Filed expert report September 1, 2015. Filed expert rebuttal report November 16, 2015. Filed expert report November 8, 2016. Filed expert report February 8, 2017. Deposition December 12, 2017.
- Testifying expert in Babak Hatamian, et al., v. Advanced Micro Devices, Inc., et al., No. 4:14-cv-00226-YGR, United States District Court for the Northern District of California, San Francisco Division. Filed expert report September 4, 2015. Filed expert rebuttal report December 7, 2015. Filed expert report November 18, 2016. Filed expert rebuttal report January 17, 2017. Filed declaration March 6, 2017. Deposition March 7, 2017.
- Testifying expert in In Re NII Holdings, Inc. Securities Litigation, No. 1:14-cv-00227-LMB-JFA, United States District Court for the Eastern District of Virginia, Alexandria Division. Filed expert report September 11, 2015. Deposition September 17, 2015. Filed expert rebuttal report October 28, 2015. Filed expert report January 8, 2016.
- Testifying expert in In Re Barrick Gold Securities Litigation, No. 1:13-cv-03851-SAS, United States District Court for the Southern District of New York. Filed expert report September 15, 2015.
- Expert declaration in In Re Tower Group International, Ltd. Securities Litigation, Master Docket No. 1:13-cv-5852-AT, United States District Court for the Southern District of New York. Filed declaration re: Plan of Allocation October 6, 2015.
- Testifying expert in Beaver County Employees' Retirement Fund et al. v. Tile Shop Holdings Inc. et al., No. 0:14-cv-00786-ADM-TNL, United States District Court for the District of Minnesota. Filed expert report December 1, 2015. Deposition March 15, 2016. Filed expert report July 1, 2016. Deposition July 26, 2016. Filed expert reply report August 15, 2016.
- Testifying expert in In Re Barclays Bank PLC Securities Litigation, Civil Action No. 1:09-cv-01989-PAC, United States District Court for the Southern District of New York. Filed expert report December 15, 2015. Filed expert rebuttal report February 2, 2016. Filed rebuttal reply expert report March 18, 2016. Deposition April 21, 2016.
- Testifying expert in In Re Petrobras Securities Litigation, Civil Action No. 15-cv-03733-JSR, 15-cv-07615-JSR, 15-cv-6618-JSR, 15-cv-02192-JSR, United States District Court for the Southern District of New York. Filed expert report May 6, 2016. Filed expert report May 27, 2016. Filed expert reply report June 17, 2016. Deposition June 24, 2016.
- Testifying expert in In Re Genworth Financial, Inc. Securities Litigation, Civ. A. No. 3:14-cv-00682-JAG, United States District Court for the Eastern District of Virginia, Richmond Division. Filed declaration re: Plan of Allocation June 2, 2016.

- Testifying expert in Zubair Patel, Individually and on Behalf of All Others Similarly Situated, Plaintiff, vs. L-3 Communications Holdings, Inc., et al., Defendants, No. 1:14-cv-06038-VEC, United States District Court for the Southern District of New York. Filed expert report June 30, 2016. Deposition July 20, 2016. Filed expert rebuttal report August 26, 2016.
- Testifying expert in Leonard Howard, Individually and on Behalf of All Others Similarly Situated, Plaintiff, vs. Liquidity Services, Inc., et al., Defendants, No. 1:14-cv-01183-BAH, United States District Court for the District of Columbia. Filed expert report September 2, 2016.
- Testifying expert in James Quinn, Derivatively on Behalf of Nominal Defendant Apple REIT Ten, Inc., Plaintiff, v. Glade M. Knight, Justin Knight, Kent W. Colton, R. Garnett Hall, Jr., David J. Adams, Anthony F. Keating III, David Buckley, Kristian Gathright, David McKenney, Bryan Peery, and Apple Hospitality REIT, Inc., Defendants, and Apple REIT Ten, Inc., Nominal Defendant, No. 3:16-cv-610, United States District Court for the Eastern District of Virginia, Richmond Division. Filed expert report October 14, 2016. Deposition October 20, 2016.
- Testifying expert in Dr. Joseph F. Kasper, et al., Plaintiff, v. AAC Holdings, Inc., et al., Defendants, No. 3:15-cv-00923, United States District Court for the Middle District of Tennessee, Nashville Division. Filed expert report October 18, 2016. Deposition November 29, 2016. Filed expert rebuttal report February 10, 2017. Filed expert report December 4, 2017.
- Testifying expert in KBC Asset Management NV, et al., Plaintiff, v. 3D Systems Corporation, Abraham N. Reichental, Damon J. Gregoire, and Ted Hull, Defendants, No. 15-cv-02393-MGL, United States District Court for the District of South Carolina, Rock Hill Division. Filed expert report October 31, 2016. Deposition January 5, 2017. Filed expert report April 21, 2017.
- Testifying expert in Arkansas Teacher Retirement System, et al., Plaintiff, v. Virtus Investment Partners, Inc., Defendants, No. 15-cv-1249-WHP, United States District Court for the Southern District of New York. Filed expert report November 7, 2016. Filed expert rebuttal report February 17, 2017. Deposition February 28, 2017. Filed expert report June 16, 2017. Filed expert rebuttal report July 26, 2017. Deposition August 9, 2017. Filed declaration re: prior reports December 4, 2017.
- Testifying expert in Laborers Pension Trust Fund – Detroit, Individually and on Behalf of All Others Similarly Situated, Plaintiffs, vs. Conn’s, Inc., et al., Defendants, No. 4:14-cv-00548 (KPE), United States District Court for the Southern District of Texas, Houston Division. Filed expert report November 10, 2016. Deposition December 9, 2016. Filed expert rebuttal report March 27, 2017.
- Testifying expert in Glen Hartsock, individually and on behalf of all others similarly situated Plaintiff, v. Spectrum Pharmaceuticals, Inc., and Rajesh C. Shrotriya, Defendants, No. 16-cv-02279-RFB-GWF and Olutayo Ayeni, individually and on behalf of all others similarly situated Plaintiff, v. Spectrum Pharmaceuticals, Inc., Rajesh C. Shrotriya, Kurt A. Gustafson, Joseph Turgeon, and Lee Allen, Defendants, No. 16-cv-02649-KJD-VCF, United States District Court for the District of Nevada. Filed declaration re: damages December 8, 2016.

- Testifying expert in In Re: ARIAD Pharmaceuticals, Inc. Securities Litigation, No. 1:13-cv-12544 (WGY), United States District Court District of Massachusetts. Filed expert report March 6, 2017.
- Testifying expert in Washtenaw County Employees' Retirement System, individually and on behalf of all others similarly situated, Plaintiff, v. Walgreen Co., Gregory D. Wasson, and Wade Miquelon, Defendants, No. 15-cv-3187, United States District Court for the Northern District of Illinois. Filed expert report April 21, 2017. Deposition June 15, 2017. Filed expert rebuttal report September 15, 2017.
- Testifying expert in Lou Baker, individually and on behalf of all others similarly situated, Plaintiff, v. SeaWorld Entertainment, Inc., James Atchison, James M. Heaney, Marc Swanson, and The Blackstone Group L.P., Defendants, No. 3:14-cv-02129-MMA-KSC, United States District Court for the Southern District of California. Filed expert report May 19, 2017. Deposition July 20, 2017. Filed expert rebuttal report September 14, 2017. Filed expert report January 22, 2019. Filed expert rebuttal report March 1, 2019. Deposition March 26, 2019.
- Testifying expert in Benjamin Gross, individually and on behalf of all others similarly situated, Plaintiff, v. GFI Group, Inc., Colin Heffron, and Michael Gooch, Defendants, No. 3:14-cv-09438-WHP, United States District Court for the Southern District of New York. Filed expert report May 30, 2017. Filed expert report August 7, 2017. Filed expert rebuttal report August 28, 2017. Deposition September 27, 2017.
- Testifying expert in Murray Rubinstein, Jeffrey F. St. Clair, William McWade, Harjot Dev and Vikas Shah, individually and on behalf of all others similarly situated, Plaintiffs, v. Richard Gonzalez and Abbvie Inc., Defendants, No. 14-cv-9465, United States District Court for the Northern District of Illinois, Eastern Division. Filed expert report December 21, 2017. Deposition February 22, 2018. Filed supplemental expert report March 9, 2018. Filed expert reply report June 14, 2018. Filed expert sur-sur reply report August 28, 2018.
- Testifying expert in In Re: SanDisk LLC Securities Litigation, No. 3:15-cv-01455-VC, United States District Court for the Northern District of California, San Francisco Division. Filed expert report January 19, 2018. Filed expert report August 30, 2018. Filed expert report October 23, 2018. Deposition November 15, 2018. Filed declaration re: Plan of Allocation and calculation of aggregate damages May 6, 2019.
- Testifying expert in In Re: EZCORP, Inc. Securities Litigation, No. 1:15-cv-00608-SS, United States District Court for the Western District of Texas. Filed expert report January 31, 2018. Deposition March 6, 2018.
- Testifying expert in Kevin Murphy, Individually and On Behalf of All Others Similarly Situated, Plaintiff, v. Precision Castparts Corp., Mark Donegan, and Shawn R. Hagel, Defendants, No. 3:16-cv-00521-SB, United States District Court for the District of Oregon, Portland Division. Filed expert report March 2, 2018. Filed expert report March 22, 2019. Filed expert reply report June 19, 2019. Deposition July 19, 2019.

- Testifying expert in In Re: Rent-A-Center, Inc. Securities Litigation, No. 4:16-cv-00978-ALM-CMC, United States District Court for the Eastern District of Texas, Sherman Division. Filed expert report March 13, 2018. Filed rebuttal reply report July 12, 2018. Deposition August 21, 2018.
- Testifying expert in Public Employees' Retirement Systems of Mississippi, Individually and On Behalf of All Others Similarly Situated, Plaintiff, v. TreeHouse Foods, Inc., Sam K. Reed, Dennis F. Riordan and Christopher D. Silva, Defendants, No. 1:16-cv-10632, United States District Court for the Northern District of Illinois. Filed expert report July 13, 2018. Deposition September 21, 2018. Filed rebuttal reply report May 17, 2019.
- Testifying expert in Gary Hefler, et al., Plaintiffs, v. Wells Fargo & Company, et al., Defendants, No. 1:16-cv-05479-JST, United States District Court for the Northern District of California. Filed declaration re: Plan of Allocation July 27, 2018.
- Testifying expert in In re Banco Bradesco S.A. Securities Litigation, No. 1:16-cv-04155-GHW, United States District Court for the Southern District of New York. Filed expert report August 17, 2018. Filed supplemental expert report October 11, 2018. Deposition October 12, 2018. Filed expert report December 14, 2018. Filed expert report March 8, 2019. Filed declaration re: Plan of Allocation July 19, 2019.
- Testifying expert in Richard Di Donato, et al., Plaintiffs, v. Insys Therapeutics Incorporated, et al. Defendants, No. CV-16-00302-PHX-NVW, United States District Court for the District of Arizona. Filed expert report August 31, 2018. Deposition October 4, 2018. Filed expert report November 30, 2018. Filed expert report July 26, 2019. Filed expert report November 1, 2019.
- Consulting expert in In Re: Wilmington Trust Securities Litigation, Master File No. 10-cv-00990-ER, United States District Court for the District of Delaware. Filed declaration re: Plan of Allocation and calculation of aggregate damages September 17, 2018.
- Testifying expert in Atul Singh Deora, Individually and On Behalf of All Others Similarly Situated, Plaintiffs, v. Nanthealth, Inc., Patrick Soon-Shiong, Paul A. Holt, Michael S. Sitrick, Kirck K. Calhoun, Mark Bennett, Edward Miller, Michael Blaszyk, Jefferies Llc, First Analysis Securities Corporation, Canaccord Genuity Inc., And Fbr Capital Markets & CO., Defendants., No. 2:17-CV-01825-BRO-MRW, United States District Court for the Central District of California Western Division. Filed expert report September 20, 2018.
- Testifying expert in City of Sunrise General Employees' Retirement Plan, Plaintiff vs. FleetCor Technologies, Inc., et al., Defendants, No. 1:17-CV-02207-LMM, United States District Court for the Northern District of Georgia Atlanta Division. Filed expert report January 4, 2019. Deposition March 20, 2019. Filed expert report May 6, 2019.
- Testifying expert in Guevoura Fund LTD., On Behalf of Itself and All Others Similarly Situated, Plaintiffs, v. Robert F.X. Sillerman, D. Geoffrey Armstrong, John Miller, Michael John Meyer, and SFX Entertainment, Inc., Defendants, Case No. 1:15-cv-07192-CM, Case No. 1:18-cv-09784-CM,

United States District Court for the Southern District of New York. Filed expert report January 18, 2019.

- Testifying expert in Leon D. Milbeck On Behalf of Himself and All Others Similarly Situated, v. TrueCar, Inc, et al., Defendants, No. 2:18-cv-02612-SVW, United States District Court for the Central District of California. Filed expert report March 8, 2019. Deposition April 8, 2019.
- Testifying expert in Lewis Cosby, Kenneth R. Martin, as Beneficiary of the Kenneth Ray Martin Roth IRA, and Martin Weakly On Behalf of Themselves and All Others Similarly Situated, vs. KPMG, LLP, Case No. 3:16-cv-00121, United States District Court for the Eastern District of Tennessee, Knoxville Division. Filed expert report March 15, 2019. Deposition April 12, 2019. Filed supplemental expert report April 19, 2019. Deposition April 25, 2019. Filed rebuttal reply report June 14, 2019.
- Testifying expert in Shawn Sanawaz, Individually and On Behalf of All Other Similarly Situated, v. Intellipharmaeutics International Inc., Isa Odidi, and Domenic Della Penna, Defendants, No. 1:17-cv-05761-JPO, United States District Court for the Southern District of New York. Filed expert report May 06, 2019.
- Testifying expert in Kevin L. Dougherty, Individually and on Behalf of All Others Similarly Situated, v. Esperion Therapeutics, Inc., et al., Defendants, No. 2:16-cv-10089-AJT-RSW, United States District Court for the Eastern Michigan of Michigan. Filed expert report June 6, 2019. Deposition July 26, 2019. Filed rebuttal reply report October 7, 2019. Filed expert report May 15, 2020. Deposition July 31, 2020.
- Testifying expert in West Virginia Investment Management Board, Stichting Blue Sky Global Equity Active Low Volatility Fund, and Stichting Blue Sky Active Large Cap Equity USA Fund vs. SCANA Corporation., et al., Civ. A. No. 3:17-cv-2616-MBS, United States District Court for the District of South Carolina. Filed expert report June 28, 2019. Deposition August 16, 2019.
- Testifying expert in Eric Weiner, Individually and on Behalf of All Others Similarly Situated, vs. Tivity Health, Inc., Donato Tramuto, Glenn Hargreaves and, Adam Holland, Defendants, Case No.: 3:17-cv-01469 United States District Court for the Middle District of Tennessee. Filed expert report July 1, 2019. Deposition September 4, 2019. Filed rebuttal reply report December 20, 2019. Filed expert report July 30, 2020. Filed rebuttal reply report September 30, 2020.
- Testifying expert in In Re Dr. Reddy's Laboratories Limited Securities Litigation, No. 3:17-cv-06436-PGS-DEA, United States District Court for the District of New Jersey. Filed expert report July 19, 2019. Deposition September 10, 2019.
- Testifying expert in Peace Officers' Annuity and Benefit Fund of Georgia, Individually and On Behalf of All Others Similarly Situated, and Jacksonville Police and Fire Pension Fund, Individually and On Behalf of All Others Similarly Situated vs. DaVita, Inc. et al., No. 1:17-cv-00304-WJM-NRN, United States District Court for the District of Colorado. Filed expert report January 31, 2020. Deposition May 27, 2020.

- Testifying Expert in In Re Avon Securities Litigation, No. 19 Civ. 01420- CM, United States District Court for the Southern District of New York. Filed expert report February 13, 2020.
- Testifying Expert in In Re Allergan Generic Drug Pricing Securities Litigation, Civil Action No. 2:16-9449 (KSH) (CLW), United States District Court for the District of New Jersey. Filed expert report March 20, 2020. Deposition July 16, 2020.
- Expert declaration in Martin Cohen, Individually and On Behalf of All Others Similarly Situated, v. Luckin Coffee Inc., Jenny Zhiya Qian, and Reinout Hendrik Schakel, Case no. 1:20-cv-01293-LJL, United States District Court for the Southern District of New York. Filed declaration May 13, 2020.
- Testifying Expert in In RE Navient Corporation Securities Litigation, No. 1:17-cv-08373-RBK-AMD, United States District Court of New Jersey. Filed expert report May 15, 2020. Deposition July 23, 2020.
- Testifying Expert in Yellowdog Partners, LP, Individually and on Behalf of All Others Similarly Situated, vs. CURO Group Holdings Corp., et al., Civil Action No. 2:18-cv-02662-JWL-KGG, United States District Court for the District of Kansas, Kansas City. Filed expert report May 18, 2020.
- Testifying Expert in Julian Keippel, Individually and On Behalf of All Others Similarly Situated, vs. Health Insurance Innovations, Inc., Gavin Southwell, and Michael D. Hershberger, No. 8:19-CV-00421-WFJ-CPT, United States District Court Middle District of Florida Tampa Division. Filed expert report May 21, 2020. Deposition June 15, 2020.
- Testifying Expert in In Re Perrigo Company plc Securities Litigation, No: 1:19-cv-00070-DLC, United States District Court for the Southern District of New York. Filed expert report July 10, 2020. Deposition August 4, 2020.
- Testifying Expert in Plymouth County Retirement System, Individually and On Behalf of All Others Similarly Situated, vs. GTT Communications, Inc., Richard D. Calder, Jr., Chris Mckee, Michael Sicoli, And Gina Nomellini, Case No. 1:19-cv-00982-CMH-MSN, United States District Court for the Eastern District of Virginia Alexandria Division. Filed expert report August 7, 2020. Filed expert report September 25, 2020.
- Testifying Expert in Thomas W. Luczak, Individually and On Behalf of All Others Similarly Situated, vs. National Beverage Corp., Nick A. Caporella, and George R. Bracken, Case No. 0:18-cv-61631-KMM, United States District Court for the Southern District of Florida. Filed expert report September 25, 2020.
- Expert declaration in In re: PG&E Corporation – and – Pacific Gas and Electric Company Debtors, Case No. 19-30088 (DM), United States Bankruptcy Court for the Northern District of California, San Francisco Division. Filed declaration on September 28, 2020.

- Testifying Expert in Oklahoma Police Pension Fund and Retirement System, Individually and on Behalf of All Others Similarly Situated, Plaintiff, v. Teligent, Inc. and Jason Grenfell-Gardner, Defendants, Case No. 1:19-cv-03354-VM, United States District Court for the Southern District of New York. Filed expert report on September 30, 2020.

Experience in Labor Economics and Discrimination-Related Cases:

- Expert consultant for Cargill in class action race discrimination matter in which class certification was defeated.
- Expert consultant for 3M in class action age discrimination matter.
- Expert consultant for Wal-Mart in class action race discrimination matter.
- Expert consultant on various other significant confidential labor economics matters in which there were class action allegations related to race, age and gender.
- Expert consultant for large insurance company related to litigation and potential regulation resulting from the use of credit scores in the insurance underwriting process.

Testimony:

- Testifying expert in Shirley Cohens v. William Henderson, Postmaster General, C.A 1:00CV-1834 (TFH) United States Postal Service. United States District Court for the District of Columbia.– Filed report re: lost wages and benefits.
- Testifying expert in Richard Akins v. NCR Corporation. Before the American Arbitration Association – Filed report re: lost wages.
- Testifying expert in Maureen Moriarty v. Dyson, Inc., Case No. 09 CV 2777, United States District Court for the Northern District of Illinois, Eastern Division. Filed expert report October 12, 2011. Deposition November 10, 2011.
- Testifying expert in Vincent Torbio, et al. against Feldor Billiards Inc. D/B/A Fatcat Billiards, et al., Index No. 153384/14, Supreme Court of the State of New York, County of New York. Filed expert report May 29, 2018. Deposition July 24, 2018.

Selected Experience in Antitrust, General Damages, and Other Matters:

- Expert consultant in high-profile antitrust matters in the computer and credit card industries.
- Expert consultant for plaintiffs in re: Brand Name Drugs Litigation. Responsible for managing, maintaining and analyzing data totaling over one billion records in one of the largest antitrust cases ever filed in the Federal Courts.

- Served as neutral expert for mediator (Judge Daniel Weinstein) in allocating a settlement in an antitrust matter.
- Expert consultant in Seminole County and Martin County absentee ballot litigation during disputed presidential election of 2000.
- Expert consultant for sub-prime lending institution to determine effect of alternative loan amortization and late fee policies on over 20,000 customers of a sub-prime lending institution. Case settled favorably at trial immediately after the testifying expert presented an analysis I developed showing fundamental flaws in opposing experts calculations.

TEACHING EXPERIENCE:

KNOX COLLEGE, Teaching Assistant - Statistics, (1995)
KNOX COLLEGE, Tutor in Mathematics, (1992 - 1993)

PUBLICATIONS:

Coffman, Chad and Mary Gregson, "Railroad Construction and Land Value." *Journal of Real Estate and Finance*, 16:2, pp. 191-204 (1998).

Coffman, Chad, Tara O'Neil, and Brian Starr, Ed. Richard D. Kahlenberg, "An Empirical Analysis of the Impact of Legacy Preferences on Alumni Giving at Top Universities," *Affirmative Action for the Rich: Legacy Preferences in College Admissions*; pp. 101-121 (2010).

PROFESSIONAL AFFILIATIONS:

Associate Member CFA Society of Chicago
Associate Member CFA Institute
Phi Beta Kappa

AWARDS:

1994 Ford Fellowship Recipient for Summer Research.
1993 Arnold Prize for Best Research Proposal.
1995 Knox College Economics Department Award.

PERSONAL ACTIVITIES:

- Pro bono consulting for Cook County State's Attorney's Office.

- Pro bono consulting for Cook County Health & Hospitals System – Developed method for hospital to assess real-time patient level costs to assist in improving care for Cook County residents and prepare for implementation of Affordable Care Act.
- Pro bono consulting for Chicago Park District to analyze economic impact of park district assets and assist in developing strategic framework for decision-making.